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CRPL-F 203 PART A

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PART A
IONOSPHERIC DATA

ISSUED
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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1960.

Smoothed Observed Sunspot Number

[illegible]

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the
Commonwealth Observatory:
Canberra, Australia
Mawson
Townsville, Australia

University of Graz:
Graz, Austria

Belgian Royal Meteorological Institute:
Lwiro (Central African Institute for Scientific Research)

Escola Politecnica, University of Sao Paulo:
Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio
Research Board:
Halley Bay
Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Port Lockroy
Slough, England

Defence Research Board, Canada:
Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada
St. John's, Newfoundland
Winnipeg, Canada

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

French National Center for Telecommunications Studies:

Bangui, French Equatorial Africa
Dakar, French West Africa
Djibouti, French Somaliland
Kerguelen I.
Poitiers, France
Rabat, Morocco
Tahiti, Society Is.
Tamanrasset, French West Africa
Tananarive, Madagascar

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover,
Germany:

Lindau/Harz, Germany
Tsumeb, South West Africa

The Royal Netherlands Meteorological Institute:

Hollandia, Netherlands New Guinea
Paramaribo, Surinam

Central Institute of Meteorology, Budapest, Hungary:

Budapest, Hungary

Geophysical and Geodetic Institute, Genoa, Italy:

Genoa (Monte Capellino), Italy

National Institute of Geophysics, City University, Rome, Italy:

Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:

Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

General Directorate of Telecommunications, Mexico:

El Cerillo, Mexico

Norwegian Defence Research Establishment, Kjeller per Lillestrom,
Norway:

Tromso, Norway

South African Council for Scientific and Industrial Research:

Capetown, Union of South Africa
Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:

Kiruna, Sweden
Lycksele, Sweden
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Sottens, Switzerland

United States Army Signal Corps:

Adak, Alaska
Thule, Greenland
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):

Anchorage, Alaska
Boulder, Colorado
Fairbanks (College), Alaska (Geophysical Institute of the
University of Alaska)
Huancayo, Peru (Instituto Geofisico de Huancayo)
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
KP		The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J. Geophys. Res. V.65, pp.185-191.

ELECTRON DENSITY

NAMEY AFR. PUERTO RICO 60 W 1 MAR 1961

[illegible]

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O ₂ KP	1	1	1	1	51	A2	2	2	3	F3	F3	1
HMIN	109	107	107	107	108		199	199	199	229	209	198
SCAT	49.5	48.6	52.5	40.2	44.1		37.6	40.5	31.4	39.4	47.2	44.2
HMAXF	294	288	301	273	273		287	299	264	314	313	297
SHMAX	1514	1218	1361	901	727		421	479	262	236	3.5	17
KM												
320										446	469	
310			1555							445	468	
300	1907		1555				834	834		432	459	280
290	1903	1446	1537				834	824		403	438	278
280	1866	1437	1491	1740	949		826	789		363	408	269
270	1791	1398	1414	1238	949		789	725	643	308	369	252
260	1876	1327	1318	1208	930		721	646	640	234	325	229
250	1825	1227	1184	1139	885		628	544	609	138	276	201
240	1314	1098	1021	1031	820		492	427	547	67.2	225	164
230	1036	949	345	886	724		308	282	443	12.4	158	125
220	783	797	682	712	612		164	155	281		79.5	85.2
210	601	655	546	557	500		74.7	76.7	123		12.4	53.1
200	473	521	435	441	401		12.4	12.4	12.4			12.4
190	392	426	366	365	324							
180	340	360	321	316	270							
170	307	319	288	280	234							
160	283	288	261	251	206							
150	261	261	237	221	180							
140	237	233	214	195	151							
130	209	204	188	171	129							
120	178	176	170	153	115							
110	137	144	135	130	99.7							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	1	1	1	1	1	1	S1	1	1	1	A1	1
HMIN	210	204	230	207	197	193	245	229	105	109	109	107
SCAT	43.9	27.2	47.7	27.2	60.5	82.0	74.6	42.0	35.8	48.1	48.3	52.3
HMAXF	316	267	312	255	407	345	370	306	266	270	300	307
SHMAX	159	92	87	45	100	104	88	154	462	775	1109	1373
KM												
370							93.8					
360							93.8					
350							93.3					
340							97.1	89.9				
330							96.4	87.0				
320	251	143					96.9	83.1				
310	250	143					127	92.7	78.5	286		
300	243	141					127	89.8	73.2	284		
290	228	136					124	86.1	68.1	276		
280	208	127					121	81.2	60.8	258		
270	182	240	116				115	75.4	51.7	234		
260	150	237	102	127			107	69.3	41.6	201		
250	118	218	83.2	126			98.8	62.6	15.3	155		
240	85.9	183	60.5	117			88.0	55.9		92.7		
230	58.9	133	2.6	99.5			75.6	49.2		12.4		
220	40.7	80.8		73.3			61.1	42.0				
210		38.8		35.0			45.0	30.0				
200				12.4			12.4					
190												
180												
170												
160												
150												
140												
130												
120												
110												

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	1	1	0	0	AO	AO	0	0	0	0	0	0
HMIN	109	109	109	106			208	205	204	233	259	237
SCAT	50.3	41.2	44.2	43.0			43.0	35.7	39.2	42.9	37.8	35.5
HMAXF	304	292	293	283			290	286	303	333	350	316
SHMAX	1427	1366	1325	1010			495	314	285	294	303	251
KM												
350											557	
340											492	548
330											492	517
320												
310	1669										481	470
300	1666	1907	1786								508	456
290	1638	1906	1784	1341							508	406
280	1577	1869	1748	1340							504	504
270	1477	1774	1666	1312								
260	1355	1621	1540	1248								
250	1185	1424	1368	1139								
240	997	1158	1156	1014								
230	815	878	907	862								
220	659	657	685	696								
210	535	505	506	540								
200	437	410	398	421								
190	371	351	333	341								
180	327	314	294	291								
170	297	287	268	257								
160	272	264	239	226								
150	245	240	199	189								
140	214	214	172	162								
130	190	182	158	143								
120	169	169	150	135								
110	124	110	78.9	126								

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	0	0	1	1	1	1	1	2	2	2	2	1
HMIN	231	209	219	199	219	198	244	198	110	106	109	106
SCAT	34.2	23.5	39.1	28.9	26.6	49.3	63.7	41.4	44.3	42.4	42.0	42.4
HMAXF	308	261	290	252	267	275	361	286	263	269	297	289
SHMAX	209	142	132	82	44	50	78	149	431	594	933	1158
KM												
370							93.8					
360							93.8					
350							93.0					
340							91.1					
330							89.1					
320							83.9					
310	446						77.8					
300	441						71.6					
290	416	262					63.7	262				
280	372	258					55.2	261				
270	309	446	246				83.8	55.2	253	573	754	1026
260	225	446	225	219			125	82.0	34.4	236	573	747
250	132	421	196	218			114	78.6	12.4	212	560	718
240	63.2	355	154	209			95.4	73.5		182	533	666
230							187	66.8	66.6	143	493	599
220							107	12.4	153	12.4	59.2	
210							93.5	48.6		60.5	365	437
200							12.4	12.4		12.4	299	358
190										240	302	295
180										197	261	268
170										163	230	242
160										137	202	214
150										117	177	188
140										103	152	161
130										88.2	121	142
120										74.3	105	133
110										90.1	90.5	143

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	1	1	0	0	0	0	0	0	1	1	1	2
HMIN	105	107	106	109	108	110	219	201	221	221	201	211
SCAT	56.6	46.6	42.0	48.2	48.9	48.2	35.5	42.2	31.6	44.1	42.6	41.7
HMAXF	303	287	273	291	295	283	292	300	297	310	305	309
SHMAX	1549	1274	1084	817	757	652	377	403	270	311	274	230
KM												
310	1771										565	446
300	1770										558	384
290	1749	1654									600	536
280	1700	1645	1555								563	500
270	1623	1600	1554	948	855	779					496	450
260	1533	1515	1510	916	817	748					402	359
250	1393	1403	1440	862	763	699					285	241
240	1193	1233	1324	789	692	636					164	137
230	966	999	1150	696	611	563					70.2	58.0
220	751	779	903	592	524	484					140	
210	565	597	673	495	478	400					64.2	
200	441	458	495	415	364	326						
190	364	366	377	352	306	267						
180	322	318	314	306	265	220						
170	295	288	283	271	233	183						
160	272	267	261	240	206	152						
150	249	249	236	211	180	125						
140	224	228	209	178	150	104						
130	197	197	183	156	127	92.9						
120	173	173	159	142	116	86.5						
110	147	153	132	55.6	89.9	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

5 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	2	F2	F1	1	1	1	1	1	A1	1	1	1
HMIN	206	223	200	198	197	256	209	110	105	109	108	
SCAT	38.9	33.9	20.0	55.1	54.3	55.6	48.7	40.1	47.9	41.3	48.1	
HMAXF	287	300	234	291	294	346	292	267	284	286	303	
SHMAX	150	135	65	88	79	53	151	436	694	933	1349	
KM												
350							77.5					
340							77.3					
330							75.9					
320							73.3					
310		286					69.0				1626	
300		286			127	112	63.8	251			1624	
290	286	279			127	111	58.1	251	794	1203	1595	
280	283	259			126	110	50.5	248	792	1196	1525	
270	272	228			122	106	41.3	238	643	777	1155	1428
260	251	185			117	100	12.4	224	638	741	1074	1295
250	223	134			109	92.6		206	615	690	971	1146
240	180	76.6	262	100	84.1			181	573	628	849	958
230	126	41.8	260	89.1	72.6			141	508	558	712	773
220	75.5		230	74.5	59.2			82.4	420	483	575	597
210	40.0		163	55.7	44.7			12.4	326	411	462	469
200			12.4	12.4	12.4				249	348	376	387
190									197	297	319	333
180									157	258	281	299
170									122	222	253	274
160									98.1	190	225	251
150									87.1	162	195	225
140									81.2	139	167	197
130									77.4	124	145	168
120									75.6	115	134	151
110									12.4	96.4	101	128

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

5 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	1	1	3	3	3	6	6	6	7	7	7	6
HMIN	107	104	106	108	109	109	218	201	224	248	279	253
SCAT	48.8	47.6	45.2	48.1	49.5	38.1	38.8	40.2	40.6	40.0	41.4	48.3
HMAXF	291	298	280	295	291	264	302	294	324	351	369	356
SHMAX	1303	1430	1133	1018	1012	699	451	427	389	417	508	640
KM												
370											875	
360											716	865 1004
350											716	825 1001
340											703	766 977
330										679	666	684 931
320										677	608	585 845
310							896			657	534	470 773
300	1626	1786		1215	1290			895	754	613	450	330 649
290	1626	1774	1528	1212	1290			874	752	555	346	187 499
280	1606	1723	1528	1184	1274			825	731	482	230	41.5 339
270	1551	1629	1509	1130	1230	1096		743	685	392	127	194
260	1465	1505	1452	1052	1166	1093		621	618	278	69.7	69.6
250	1345	1335	1361	945	1071	1059		462	529	156	20.7	
240	1191	1139	1230	814	919	985		248	428	81.4		
230	1004	888	1037	677	746	876	95.5		310	41.2		
220	782	680	800	551	572	722	26.9		187			
210	594	520	610	444	440	545			85.4			
200	449	414	461	365	344	397						
190	363	352	362	312	285	293						
180	314	315	312	278	248	234						
170	285	290	282	252	220	198						
160	262	269	257	226	195	172						
150	234	247	232	193	173	148						
140	206	219	206	156	149	128						
130	178	190	177	139	126	111						
120	155	164	156	131	116	99.7						
110	143	148	134	102	52.8	55.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	6	F6	F4	F4	4	F4	F4	4	4	4	4	2
HMIN	230	202		225		242	197	109	106	109	106	
SCAT	42.1	39.4		29.8		58.3	45.2	44.0	59.9	52.7	90.3	
HMAXF	340	299		291		351	310	272	293	291	362	
SHMAX	698	490		238		202	201	395	643	667	1040	
KM												
370											679	
360							262				679	
350							262				676	
340	1191						260				669	
330	1174						254				658	
320	1121						244				642	
310	1039						228	310			619	
300	924	875			608		210	306	643	679	594	
290	775	863			608		190	295	642	679	567	
280	598	819			589		166	276	540	635	672	539
270	384	750			537		139	251	540	619	653	509
260	204	665			441		106	215	530	592	619	477
250	102	561			294		65.8	172	507	558	575	441
240	54.0	424			146			129	468	517	523	403
230	251				50.1			92.8	418	470	467	365
220	120							65.9	355	420	410	333
210	55.4							45.6	278	365	361	307
200								12.4	215	315	321	288
190									170	270	290	274
180									136	232	265	262
170									110	202	242	248
160									89.8	175	217	232
150									76.2	149	189	213
140									69.3	124	160	191
130									65.7	109	140	168
120									62.1	101	129	151
110									45.5	84.8	55.6	102

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

6 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP		2	2	1	1	1	0	0	0	0	0	F0
HMIN	109	107	109	108	110	109	232	205	198	240	258	289
SCAT	62.0	64.8	49.0	51.5	45.5	60.5	35.1	40.3	43.4	55.2	52.8	46.2
HMAXF	326	323	271	263	259	287	297	286	291	334	380	370
SHMAX	751	795	504	415	358	423	199	201	143	125	136	127
KM												
380											179	
370											178	219
360											173	216
350											165	209
340										179	152	196
330	608	679								179	137	178
320	606	679								176	120	156
310	598	672								170	103	125
300	581	657					461		240	162	84.4	77.4
290	555	633				432	457	382	240	150	66.8	12.4
280	522	604	540			430	434	380	237	136	50.7	
270	484	565	540	439		423	395	367	227	118	35.4	
260	442	514	534	439	417	409	327	343	209	95.6	6.6	
250	398	452	516	432	413	392	214	308	187	62.6		
240	358	383	487	418	399	368	76.6	250	159	4.1		
230	325	328	448	395	374	336		177	123			
220	298	296	391	363	340	298		98.4	85.2			
210	281	276	334	325	297	257		44.4	52.5			
200	269	261	292	287	259	223			12.4			
190	259	253	265	258	232	194						
180	251	245	250	238	213	170						
170	243	236	237	224	195	146						
160	229	225	222	206	173	123						
150	205	209	203	180	144	101						
140	178	182	181	155	122	86.8						
130	159	160	159	140	109	80.1						
120	149	149	146	131	102	75.2						
110	73.0	92.4	68.6	79.9	124	46.8						

ELECTRON DENSITY

7 MAR 1961 60 W 7 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
G.K.P	1	1	2	2	2	2	2	2	2	2	2	2
H.M.P	108	108	109	109	107	108	219	199	201	202	256	247
SCAT	46.2	52.2	50.4	40.5	42.8	40.8	33.7	38.9	34.5	40.3	45.4	58.3
HMAX.F	287	300	282	295	288	284	282	276	275	276	356	374
SHMA.F	1063	1114	997	944	866	798	518	449	276	153	127	189
KW												
370											235	
360											234	
350											197	225
340											192	214
330											182	202
320											166	185
310											146	164
300		1215		1038							123	140
290	1741	1204	1240	1035	1050	1143	1240				97.2	114
280	1332	1171	1239	1013	1041	1140	1238			896	608	298
270	1293	1115	1272	965	1005	1110	1198		890	605	296	50.5
260	1221	1038	1181	902	935	1044	1103		853	579	287	17.4
250	1122	936	1116	824	849	945	943		793	528	267	
240	986	816	1025	732	751	805	694		699	448	239	
230	817	692	895	579	621	644	281		568	336	202	
220	617	577	721	535	557	600	38.9		394	190	150	
210	494	482	563	457	466	377			152	71.8	73.3	
200	393	410	433	334	384	293						
190	335	358	349	343	322	238			12.4			
180	303	321	300	302	276	204						
170	280	291	270	271	240	178						
160	259	265	246	243	211	154						
150	233	236	221	215	185	133						
140	197	210	187	182	161	113						
130	164	182	158	149	140	97.7						
120	150	155	155	135	122	90.1						
110	103	128	76.1	76.1	96.4	74.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 8 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0.5XP		1	1		1	1		2	A2		2	2
HMIN	110	109	106	109	106	108	208	200	199	222	273	256
SCAT	48.1	54.3	50.4	43.6	48.7	44.7	38.4	38.1	41.6	58.9	49.1	53.7
HMAXF	305	301	297	284	299	290	284	270	280	353	385	373
SHMAX	1102	1246	1209	934	1017	973	660	427	240	238	210	249
FM												
390											304	
380											303	335
370											297	335
360											286	284
350											285	264
340											282	240
330											274	210
320											263	177
310	1240	1420									246	138
300	1237	1419	1446		1240						226	99.6
290	1210	1404	1439	1240	1230	1393	1393				203	65.0
280	1157	1365	1403	1237	1193	1376	1390	875	439	177	40.4	144
270	1076	1298	1339	1206	120	1319	1350	875	433	150		62.9
260	971	1217	1240	1142	1043	1230	1251	860	414	123		26.2
250	851	1103	1127	1043	925	1117	1219	812	382	93.3		
240	724	961	969	915	797	938	910	738	339	65.4		
230	604	769	791	747	624	721	570	631	281	42.9		
220	495	606	622	578	468	513	169	493	209			
210	409	477	483	450	393	371	28.3	473	117			
200	355	358	385	362	324	281		12.4	12.4			
190	320	329	328	307	278	229						
180	297	299	294	271	245	194						
170	278	276	271	243	217	167						
160	259	253	246	217	192	143						
150	233	230	216	190	165	121						
140	196	203	178	161	139	103						
130	162	176	159	142	125	93.6						
120	149	154	151	133	117	87.6						
110	12.4	97.2	132	78.9	98.5	62.6						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 9 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q,KP	3	3	53	A3	A3	4	4	4	4	4	4	5
HMIN	106	109	109	109	109	111	199	199	200	198	265	289
SCAT	50.9	52.9	55.0	49.0	66.2	48.6	31.3	36.0	45.3	43.8	41.5	40.7
HMAXF	300	301	301	304	303	274	274	280	281	328	374	379
HMAXH	1184	1305	1268	1075	1017	1066	575	479	325	288	277	270
KM												
380											446	477
370											455	471
360											433	452
350											406	417
340											367	369
330											417	321
320											414	269
310		1500	1466	1240	1215					400	210	165
300	1841	1500	1464	1218	1214	1420				373	153	90.2
290	1329	1484	1431	1216	1191	1415		1004	573	338	101	12.4
280	1290	1447	1392	1167	1138	1383	1361	1004	573	294	62.6	
270	1225	1363	1236	1092	1058	1212	1337	965	564	249	36.7	
260	1140	1263	1233	993	951	1233	1279	925	562	203		
250	1018	1140	1134	876	828	1107	1153	829	504	161		
240	877	982	982	754	700	962	952	681	454	123		
230	733	810	802	631	581	764	705	501	480	89.4		
220	598	647	626	522	478	543	375	262	286	53.2		
210	486	516	483	431	396	375	126	97.7	136	44.7		
200	407	415	371	360	333	275	12.4	12.6		8.4		
190	353	352	312	306	288	214						
180	316	312	279	262	251	177						
170	288	284	252	227	218	147						
160	265	265	221	193	187	116						
150	240	241	187	167	159	92.4						
140	199	213	166	149	137	82.6						
130	166	179	155	138	124	78.4						
120	153	156	147	130	115	74.1						
110	144	116	78.9	63.9	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 10 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
HMFP	3	A3	A2	A2	2	1	1		51	1		A1
OMIN	109	109		108	109	108	200	200		269	298	277
SCAT	43.0	46.1		54.4	48.8	44.5	28.0	46.2		49.1	57.2	49.2
HMAXF	288	280		317	287	270	247	281		382	414	383
SHMAXF	902	761		1148	1065	863	234	179		153	201	179
KM												
420											262	
410											262	
400											259	
390										219	251	262
380										219	240	262
370										215	224	258
360										208	205	248
350										194	181	232
340										177	152	213
330										156	121	186
320				1215						132	88.1	157
310				1210						106	54.6	126
300				1184						79.6	12.4	88.5
290	1096			1138	1446			304		57.7		55.1
280	1086	917		1071	1440	1240		304		41.2		18.1
270	1046	906		983	1405	1240		299		4.9		
260	975	874		875	1339	1223		288				
250	883	819		751	1238	1175	716	268				
240	769	745		624	1121	1098	704	243				
230	644	647		511	928	983	649	210				
220	533	533		425	689	935	562	166				
210	443	437		365	476	661	238	109				
200	375	363		324	340	477	12.4	12.4				
190	329	315		293	273	319						
180	298	287		266	236	216						
170	272	255		240	206	170						
160	245	226		211	176	139						
150	216	198		181	149	116						
140	186	174		163	133	102						
130	161	159		154	123	94.1						
120	150	150		146	116	88.7						
110	58.9	90.5		79.9	62.8	77.8						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										60 W		11 MAR 1961	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
Q _z KP	A1	1	2		2	2	E2	2	2	2	2	2	
HMIN	248	246	259	210	200	198		198	109	109	107	108	
SCAT	53.3	43.7	39.8	44.5	33.6	64.3		42.1	36.0	42.1	45.1	52.9	
HMAXF	365	349	339	301	254	316		280	243	259	264	293	
SHMAX	208	171	153	224	104	100		155	294	489	549	816	
KM													
370	286												
360	285												
350	280	274											
340	270	271	286										
330	255	260	282										
320	237	242	270			119							
310	210	217	248	389		119							
300	177	188	218	389		117						834	
290	139	154	179	383		114	286					833	
280	99.8	114	130	366		109	286					822	
270	69.0	77.8	79.8	343		103	282					795	
260	46.0	50.5	12.4	309	257	95.9	269		643	643	751		
250	7.8	17.4		249	256	87.0	249	446	635	627	696		
240				173	246	76.8	223	446	609	595	627		
230				106	226	64.9	182	433	565	548	557		
220				54.3	196	51.6	122	400	502	491	487		
210					128	37.7		65.3	354	426	429	424	
200					12.4	6.1		297	349	372	372		
190								239	291	325	333		
180								194	250	288	303		
170								161	218	259	277		
160								133	190	232	253		
150								110	164	205	229		
140								94.9	140	174	199		
130								85.7	120	146	166		
120								75.5	104	133	150		
110								38.9	72.7	99.3	104		

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W			11 MAR 1961		
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
Q _z FP	2	2	A2	2	A2	A1	1	1	3	3	3	1						
HMIN	108	108	109	108		109	199	200	209	227	280	278						
SCAT	50.5	50.6	51.3	36.2		44.0	36.1	41.9	44.4	40.2	42.7	40.5						
HMAXF	295	293	299	287		284	278	285	306	319	369	372						
SHMAX	958	974	992	828		769	461	362	257	190	195	191						
KM																		
380													335					
370													335					
360													332					
350													319					
340													297					
330													266					
320													226					
310													200					
300	1050	1084	1096															
290	1047	1083	1087	1096														
280	1025	1067	1059	1085	1047	1004	641	382	257	2.6	12.4							
270	981	1026	1007	1030	1023	992	623	349	215									
260	921	968	936	938	969	941	586	308	167									
250	839	892	853	835	892	854	532	259	118									
240	744	793	752	713	781	709	462	200	66.4									
230	639	683	637	587	654	483	374	140	19.9									
220	534	571	524	477	520	233	268	78.0										
210	441	468	427	388	401	92.2	140	12.4										
200	371	390	357	324	302	12.4	12.4											
190	327	338	313	284	238													
180	297	305	285	257	198													
170	275	280	262	236	170													
160	254	258	237	213	142													
150	232	234	205	181	119													
140	204	207	176	155	103													
130	171	180	158	141	93.8													
120	153	167	149	133	88.2													
110	117	98.4	65.5	89.4	72.0													

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO										60 W			12 MAR 1961		
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
Q _z FP	1	1	1	1	A1	A2	2	2	2	2	2	1			
HMIN	258	219	201	199		193	237	208	107	108	108	108	109		
SCAT	41.6	34.9	23.5	37.9		68.2	50.8	32.6	41.2	44.6	41.0	47.0			
HMAXF	357	292	244	265		312	322	266	250	264	277	279			
SHMAX	211	191	129	78		69	58	116	357	531	706	819			
KM															
360	355														
350	352														
340	339														
330	316							90.4							
320	283					80.6	90.3								
310	241					80.6	89.1								
300	194	417				80.0	86.0								
290	140	417				78.6	80.9								
280	89.3	404				76.2	75.0					917	1004		
270	53.7	374		161		73.0	67.5	286		679	911	996			
260	12.4	329		160		68.1	56.9	284	500	678	879	965			
250		251	446	155		62.3	43.5	269	500	662	816	911			
240		154	462	144		56.0	12.4	244	492	628	733	836			
230		71.5	404	129		49.5		201	469	579	633	742			
220		12.4	324	107		43.2		117	431	514	620	628			
210			137	74.4		30.6		26.9	382	443	416	505			
200				12.4		12.4			323	369	339	398			
190									264	299	292	330			
180									213	245	259	288			
170									171	208	232	257			
160									139	177	203	226			
150									118	148	172	196			
140									101	130	151	173			
130									85.2	121	139	158			
120									76.4	115	132	149			
110									60.9	78.1	79.9	97.4			

ELECTRON DENSITY

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OKP	3	3	A2	A2	A2	2	2	2	4	4	2	2
HMIN	109	109	107			108	216	199	219	212	243	226
SCAT	44.7	49.8	41.7			42.3	37.9	37.9	53.8	53.1	55.7	48.6
HMAX	281	281	280			282	288	278	317	346	332	334
SHMAX	802	857	960			772	493	343	291	315	216	273
KM												
350										417		
340										416	417	410
330										408	417	407
320									417	392	406	402
310			1072						415	369	378	385
300			1063						406	339	334	360
290	949	960	1018			1096	1050		390	301	277	327
280	949	956	950			1095	1018	674	367	335	213	285
270	934	934	865			1074	984	672	337	202	147	234
260	893	899	763			1020	905	642	298	150	84.2	178
250	831	830	657			939	781	587	269	110	44.3	117
240	751	754	560			821	598	513	194	78.4		66.4
230	656	662	478			677	242	407	128	54.7		26.8
220	556	565	414			534	52.5	278	44.7	33.3		
210	460	473	364			410		135				
200	382	392	329			329		12.4				
190	331	338	304			262						
180	299	301	283			198						
170	274	274	260			165						
160	249	250	232			137						
150	221	224	202			116						
140	189	193	177			102						
130	172	175	160			93.4						
120	161	164	147			87.6						
110	110	55.6	113			58.7						

ELECTRON DENSITY

RAYEY AFR, PUERTO RICO					60 W					14 MAR 1961				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
QKFP	4	4	4	4		A2	A2	2	2	2	F4			
HMIN	108	111	108	110	109			199	199	196	249	199		
SCAT	36.2	45.2	43.8	54.2	35.1			34.7	34.3	51.9	53.8	41.8		
HMAXF	280	287	296	304	279			273	264	337	361	337		
SHMAX	905	956	967	1172	774			334	148	222	240	212		
KM														
370											335			
360											335			
350											332			
340										280	323	304		
330										279	307	302		
320										272	287	291		
310				1341						250	262	270		
300			1143	1339						242	226	242		
290				137	1318					221	183	210		
280	1252	1191						745		196	133	175		
270	1217	1149	1038	1207	1122			744	335	168	83.8	143		
260	1160	1083	970	1127	1054			921	334	141	50.2	116		
250	1018	992	846	999	943			663	322	116	6.8	93.9		
240	895	870	733	836	806			580	295	93.0		75.0		
230	726	712	622	676	653			466	254	71.9		59.0		
220	585	577	514	539	506			244	195	55.2		46.4		
210	469	471	429	433	395			104	104	41.5		28.5		
200	385	380	363	354	318			12.4	12.4	12.4		1.7		
190	313	336	315	304	267									
180	290	300	281	271	230									
170	271	271	253	243	199									
160	242	245	226	220	170									
150	207	217	196	196	147									
140	184	189	170	171	132									
130	172	172	156	154	123									
120	162	158	147	140	116									
110	115		79.9	12.4	71.9									

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	F4	F4	3	F3	F3	4	F4	4	S5	A5	5	3
HMIN	238	243	249		214	199	278	198	109	109	110	109
SCAT	47.0	43.8	38.3		44.2	43.5	48.0	36.4	41.8	54.4	46.8	37.1
HMAXF	335	337	316		289	272	362	287	274	306	294	270
SHMAX	211	170	157		121	88	88	159	451	886	1184	1110
KM												
370							143					508
360							143					504
350							141					490
340	335	286					136					460
330	334	286					127					422
320	327	280	335				115					372
310	312	268	334				100					507
300	287	267	322				82.6					414
290	248	220	298		219		59.6	310		94.9		402
280	223	185	266		216	161	12.4	310	608	892	1496	467
270	176	146	210		208	161		301	606	842	1428	426
260	118	103	111		194	158		281	540	781	1331	371
250	62.7	51.9	12.4		176	150		252	554	706	1198	296
240	12.4				151	139		207	503	620	1020	211
230					114	124		149	439	532	812	120
220					55.0	104		97.7	368	448	636	56.6
210					71.1			55.6	298	373	490	38.7
200					12.4			12.4	240	314	381	
190								195	267	316	358	
180								157	232	278	304	
170								128	201	251	270	
160								107	174	227	237	
150								92.4	147	202	195	
140								82.5	120	172	167	
130								77.9	107	145	154	
120								73.3	101	126	145	
110								47.1	46.8	12.4	49.0	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	53	53	3	A5	A5	A5	A5	F5	3	
HMIN	108	108	109	109	109					247	307	251
SCAT	60.8	49.1	57.2	41.7	48.4					44.6	45.4	41.7
HMAXF	296	287	310	269	291					337	397	343
SHMAX	1189	1119	1366	815	932					253	303	287
KM												
400												508
390												504
380												490
370												460
360												422
350												372
340												507
330												414
320												402
310												467
300	1240		1446		1096							467
290	1217	1354	1402		1096							426
280	1217	1347	1347		1082							371
270	1182	1298	1269	1096	1045							296
260	1128	1243	1170	1083	982							254
250	1061	1154	1046	1036	903							211
240	970	1040	896	959	805							120
230	861	890	745	862	699							56.6
220	762	724	617	742	581							
210	672	573	502	608	470							
200	506	464	417	483	384							
190	412	379	357	379	323							
180	346	327	317	306	278							
170	302	293	287	261	243							
160	271	267	263	232	216							
150	239	242	240	207	190							
140	204	213	213	183	164							
130	176	181	183	162	143							
120	145	166	166	149	133							
110	79.9	91.9	78.9	65.5	76.1							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _z KP	3	3	5	5	55	3	3	3	53	3	3	3
HMIN	230	224	211	201		288	247	214	109	110	110	109
SCAT	40.9	41.4	27.5	33.1		63.6	48.7	33.4	31.2	37.8	49.3	43.8
HMAXF	318	310	269	264		393	336	270	235	245	283	289
SHMAX	277	256	163	142		89	80	159	362	463	759	919
KM												
400												417
390												417
380												410
370												393
360												367
350												389
340												445
330												330
320	508											387
310	502	469										430
300	482	462										401
290	447	441										359
280	396	408										309
270	327	360	446	335								257
260	237	295	434	334								255
250	127	206	391	320								197
240	62.1	110	320	292								200
230	4.1	49.0	207	246								188
220			79.2	170								70.9
210				73.2								97.6
200												62.7
190												35.0
180												
170												
160												
150												
140												
130												
120												
110												

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _z KP	3	3	51	1	1	1	1	1	2	2	2	2
HMIN	108	110	108	108	108	109	216	200	217	262	236	224
SCAT	48.0	37.6	43.6	44.9	49.2	40.4	34.0	40.6	42.2	45.8	38.5	40.1
HMAXF	305	271	271	274	280	268	287	272	300	362	325	335
SHMAX	1313	1099	978	782	792	648	407	374	248	263	210	275
KM												
370											417	
360											417	
350											410	
340											393	446
330											367	445
320											330	387 430
310	1528										282	374 401
300	1524								446		236	345 359
290	1491				960		917		440	167	306	309
280	1423 1669	1341		960	960		908	754	422	110	257	255
270	1335 1668	1341		958	950	960	859	754	390	36.0	197	200
260	1199 1634	1320		935	920	950	773	737	346		128	148
250	1036 1537	1264		886	871	909	646	698	289		70.9	97.6
240	871 1384	1171		817	800	861	463	618	218		27.5	62.7
230	712 1166	1045		728	710	741	206	534	133			35.0
220	575 917	863		629	607	614	53.6	387	40.7			
210	478 686	684		532	499	478			172			
200	408 511	518		446	403	354						
190	357 399	403		375	330	264			12.4			
180	310 333	329		315	275	208						
170	291 295	285		269	234	172						
160	267 269	257		232	203	145						
150	242 245	229		201	175	123						
140	211 219	200		174	143	110						
130	178 189	172		152	125	104						
120	164 167	154		137	117	98.9						
110	98.4	40.2		128	117	87.5	43.8					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F2	F2	A5	5	F5	4	4	4	3	3	3	2
HMIN	247	218	209	195	197	288	215	199	108	109	109	110
SCAT	38.9	45.7	42.3	38.6	44.7	47.7	64.6	40.5	47.5	38.2	47.7	51.6
HMAXF	329	323	291	257	277	376	350	284	281	268	289	307
SHMAX	227	261	252	114	64	79	128	182	661	737	1009	1354
KM												
380						127						
370						127						
360						124						
350						118	143					
340						109	142					
330	446	417				96.9	140					
320	441	417				83.1	136					
310	420	400				66.4	130					
300	384	392	477			46.3	122					
290	334	365	477			7.6	113	335	875		1215	1515
280	262	326	469		112		102	335	875		1204	1451
270	155	277	448		111		88.4	326	863	1036	1167	1356
260	76.9	217	416	240	108		74.3	306	832	1084	1101	1232
250	30.0	145	366	238	102		60.3	279	780	1035	1011	1087
240		90.3	287	228	92.1		48.8	237	711	951	898	912
230		56.4	171	211	80.9		36.8	181	617	830	765	744
220		12.4	77.1	187	66.6		12.4	120	507	679	640	595
210			12.4	147	48.5			65.1	391	528	528	476
200				83.7	12.4			12.4	296	395	433	397
190									233	310	361	345
180									191	261	309	309
170									155	226	270	281
160									124	195	235	256
150									104	165	201	229
140									88.8	133	168	198
130									79.3	112	142	162
120									72.4	104	130	146
110									54.3	83.9	49.0	12.4

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 17 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	2	2	1	1	1	A1	1	1	A2	2	2	F1
HMIN	109	109	109	109	110	109	199	199	232	277	278	280
SCAT	39.1	45.8	44.1	46.5	44.1	39.6	43.4	40.8	51.8	53.2	40.0	41.9
HMAXF	298	295	295	283	286	280	295	281	330	399	384	362
SHMAX	1347	1478	1439	1142	886	694	489	381	305	287	296	302
KM												
400										389		
390										386	500	
380										377	499	
370										360	484	548
360										337	453	548
350										307	408	536
340										446	769	353
330										446	225	289
320										442	176	217
310										429	126	142
300	1907	1907	1907				834			407	83.7	89.6
290	1886	1900	1901	1500	1143	1004	831	716		278	52.7	53.5
280	1804	1853	1854	1499	1137	1004	808	715	340	17.5	12.4	
270	1463	1757	1753	1472	1104	987	762	698	297			
260	1453	1618	1607	1404	1042	936	696	658	246			
250	1187	1439	1418	1312	950	856	612	599	184			
240	920	1218	1181	1180	837	757	502	509	82.1			
230	695	974	936	1011	707	642	359	390				
220	526	754	713	809	573	515	200	249				
210	423	575	549	630	456	398	89.5	127				
200	361	460	436	479	369	295	12.4	12.4				
190	326	385	366	371	306	214						
180	301	334	322	307	261	152						
170	279	300	291	267	226	123						
160	256	271	268	240	199	110						
150	226	243	243	217	160	101						
140	191	215	209	180	136	84.9						
130	152	184	177	161	122	90.9						
120	150	166	161	147	113	86.0						
110	68.6	84.9	55.5	62.0	12.4	63.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q*KP	F1	1	1	A1	51	50	50	0	3	3	3	4
HMIN	228	202	199	199	215	194	196	199	109	109	109	108
SCAT	34.4	29.4	26.4	31.4	51.8	71.0	51.0	34.5	39.9	46.4	48.9	57.3
HMAXF	318	269	264	255	313	330	282	263	252	266	297	310
SHMAX	271	186	117	58	64	91	53	125	382	540	895	1206
KM												
330						97.2						
320	565					93.8	96.8					
310	557					93.7	95.4				1215	
300	523					92.4	93.0				1004	1206
290	469					89.3	89.6	83.8			999	1178
280	380					84.5	85.3	83.8			975	1131
270	259	477	310			76.6	79.3	82.7	286		634	926
260	160	466	308	143	68.0	72.7	79.9	285	532	631	860	986
250	97.4	428	289	143	58.3	65.0	75.6	276	532	615	773	894
240	57.4	362	246	136	48.2	57.1	69.1	254	521	581	671	792
230	12.4	245	184	121	36.8	49.4	60.7	222	492	536	567	674
220		115	113	98.9	12.4	42.5	51.5	171	449	482	471	561
210		56.0	58.6	69.6		28.4	41.7	89.5	391	424	388	466
200			4.5	12.4		10.6	12.4	12.4	330	367	334	397
190									274	318	301	347
180									226	277	275	311
170									186	243	252	285
160									155	212	228	264
150									131	184	202	242
140									116	160	175	214
130									97.2	141	158	187
120									80.1	120	147	168
110									12.4	84.9	78.9	129

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 18 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q*KP	4	4	54	4	4	3	3	3	2	2	2	5
HMIN	109	108	109	109	109	109	207	200	198	311	226	228
SCAT	46.5	47.0	48.5	52.3	52.5	42.0	45.4	35.1	48.5	41.3	40.7	41.2
HMAXF	313	311	323	320	319	279	295	272	297	376	352	327
SHMAX	1281	1366	1529	1675	1443	1036	631	336	172	161	204	210
KM												
400											286	
390											284	
380											275	
370											257	
360											231	310
350											198	310
340											160	303
330											112	286
320	1446	1555	1756	1907	1669						59.6	258
310	1445	1555	1725	1889	1655						225	346
300	1419	1533	1654	1817	1612		1096			262	189	322
290	1760	1475	1551	1746	1537		1092			261	153	288
280	1262	1379	1412	1627	1444	1555	1064	716	254		121	243
270	1137	1257	1233	1470	1302	1537	1010	716	242		93.7	189
260	994	1094	1047	1291	1152	1474	929	695	224		71.6	133
250	847	938	853	1093	977	1361	811	645	200		55.2	82.5
240	703	790	691	893	788	1213	660	568	172		41.5	51.1
230	582	646	558	708	609	1030	463	465	140		12.4	12.4
220	487	533	459	546	474	790	203	316	103			
210	414	448	394	436	375	563	45.4	156	59.1			
200	364	388	351	364	308	388		12.4	12.4			
190	331	347	322	318	266	284						
180	307	318	299	286	236	224						
170	288	296	278	262	210	189						
160	270	276	258	238	183	163						
150	249	255	234	214	154	139						
140	224	226	197	197	132	120						
130	194	195	167	170	122	107						
120	172	173	153	150	115	94.9						
110	124	141	110	78.9	84.0	49.0						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

RICO

19 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
MAXP	5	5	6	A6	6	4	54	4	5	5	5	
QINX	225	208	221	197	293	227	218	118	109	109	109	108
SCAT	39.7	28.8	38.7	56.6	43.5	46.6	81.7	44.2	56.1	70.3	60.9	48.6
HMAXF	305	281	309	315	380	317	368	268	282	342	336	305
SHMAX	180	129	142	153	116	79	103	316	503	1172	1527	1635
KM												
380					198							
370					196			97.2				
360					188			97.0				
350					175			96.1		960		
340					157			94.4		960	1446	
330					133			92.1			953	1442
320				198	104	127	89.0				936	1420
310	382		262	198	71.7	126	85.1				908	1378
300	380		259	194	41.7	123	80.0				871	1312
290	363	310	264	188		117	74.6		540		825	1228
280	328	310	225	178		107	68.6		540		775	1133
270	278	299	196	164		94.8	61.8	446	534	722	1024	1675
260	212	268	156	148		79.5	54.6	442	520	667	905	1474
250	134	221	115	129		61.9	47.3	427	496	608	784	1222
240	76.0	157	71.8	100		45.0	43.0	369	465	548	671	990
230	35.0	96.0	44.5	88.3		12.4	21.6	322	425	487	574	778
220	56.0		66.8					306	380	427	490	610
210	12.4		47.0					248	333	374	419	487
200								193	287	320	366	407
190								150	244	290	324	354
180								116	208	256	292	317
170								92.4	175	227	265	289
160								76.2	145	201	239	262
150								67.2	121	175	215	234
140								60.9	104	148	192	206
130								46.9	93.5	127	169	177
120								12.4	86.9	118	151	157
110									61.4	87.7	84.4	136

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
7.4 KP												
ΩIN	5	9	5	4	4	10	19	4	20	4	54	3
SCAT	56.4	41.6	61.6	60.2	53.3	42.8	41.2	48.2	58.9	51.8	42.5	46.2
HMAXF	315	304	319	326	293	282	293	299	367	375	354	369
SHMAX KM	1700	1659	1817	1663	1347	934	562	355	356	305	248	287
380										417		
370										417	416	446
360										416	408	446
350										409	392	446
340										396	368	435
330				1756						375	337	411
320	1907		2016	1752						350	297	376
310	1902	2260	2005	1727						320	252	328
300	1872	2256	1967	1677	1654		1004	540		285	207	260
290	1811	2199	1903	1599	1653	1240	1003	535	246	156	181	144
280	1719	2072	1818	1505	1629	1239	980	519	206	104	90.3	82.3
270	1601	1887	1711	1381	1576	1215	926	490	166	65.5	12.4	31.0
260	1448	1656	1550	1228	1491	1160	845	452	127	32.2		
250	1245	1392	1332	1023	1383	1066	726	399	91.5			
240	979	1067	1120	893	1244	953	581	339	63.3			
230	780	787	856	674	1057	826	415	265	42.8			
220	605	594	688	540	842	691	242	190	3.9			
210	484	465	520	435	641	559	113	114				
200	404	389	441	364	472	442	12.4	12.4				
190	353	345	346	315	350	348						
180	317	314	304	279	282	274						
170	291	290	280	250	245	219						
160	267	268	256	224	218	182						
150	241	246	228	199	193	155						
140	209	219	195	168	168	133						
130	179	189	165	143	144	115						
120	169	171	152	134	130	103						
110	127	105	126	112	82.6	71.7						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

RICO

20 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OKP	3	A3	3	S3	S3	S4		4	4		3	
HMIN	247	219	220		218	257		205	107	109	108	107
SCAT	38.5	27.5	29.8		74.6	48.4		33.9	36.8	48.7	51.9	56.3
HMAXF	333	265	270		366	322		278	264	289	296	305
SHMAX	250	166	98		128	72		186	466	777	975	1262
KM												
370					127							
360					127							
350					125							
340		477			123							
330		476			119							
320		463			115	112						
310		433			108	110						1341
300		389			100	107						
290		329			91.9	101						
280		248	262		83.3	92.0		417		917	1050	1338
270		162	508	262	73.6	81.4		411	679	882	980	1207
260		82.3	504	255	63.6	68.4		388	677	835	920	1130
250		31.0	472	232	53.5	54.1		349	655	770	844	1014
240			410	198	44.3	40.7		279	608	685	758	879
230			262	135	28.3	9.2		179	537	586	668	735
220		43.8	12.4		5.6			94.1	449	492	573	612
210								44.4	363	405	489	503
200									290	335	414	417
190									237	286	355	363
180									194	248	308	325
170									161	214	273	295
160									134	179	241	274
150									111	150	208	242
140									97.9	132	175	207
130									92.4	123	154	176
120									87.4	116	138	155
110									64.4	65.5	118	138

ELECTRON DENSITY

RAYEY AFB, PUERTO RICO

60 W

20 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
0.170	3	3	4	4	1	2	2	2	3	3	3	3
HMIN	105	107	104	109	110	108	218	200	198	229	267	243
SCAT	60.2	50.7	41.7	42.4	42.9	54.8	42.5	47.2	41.0	50.8	46.4	38.6
HMAX	320	303	289	292	285	289	306	311	313	337	372	354
5HMAX	1545	1427	1173	1219	982	949	529	492	371	316	288	232
KM												
380											446	
370											446	
360											438	389
350											420	388
340										446	391	376
330	1528							754	608	443	353	350
320	1528									431	303	312
310	1517	1669					960	754	607	409	243	265
300	1484	1668		1612			955	744	593	379	183	213
290	1428	1643	1555	1610	1290	1131	926	714	560	343	126	166
280	1355	1586	1538	1578	1286	1123	872	669	511	301	65.9	119
270	1262	1493	1477	1491	1252	1097	787	610	444	254	20.3	82.2
260	1145	1377	1362	1370	1175	1052	667	531	358	202		55.7
250	1006	1216	1208	1215	1077	988	507	438	275	140		31.0
240	866	1013	1028	1029	948	904	326	335	202	74.5		
230	731	825	831	834	804	803	127	122	138	12.4		
220	609	657	654	655	653	606	28.3	119	90.4			
210	477	513	498	513	515	558		59.9	51.3			
200	432	432	406	412	401	416		4.1	12.4			
190	377	373	353	346	327	301						
180	338	335	319	301	281	238						
170	309	307	292	270	250	197						
160	287	282	267	242	223	167						
150	262	256	240	214	196	140						
140	228	225	208	188	167	120						
130	195	195	177	164	141	108						
120	174	174	157	146	124	99.3						
110	153	145	145	65.5	12.4	34.9						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	3	3	2	2	2	2	2	2	1	1	1	3
HMIN	238	228	221	199	196	237	197	198	106	109	109	108
SCAT	42.8	39.3	30.4	29.7	55.6	59.5	58.0	37.3	40.9	38.7	36.3	44.9
HMAXF	346	316	281	255	326	345	337	283	264	267	267	285
SHMAX	247	236	163	85	120	107	116	106	565	699	799	1097
KM												
350	400					139						
340	398					139	135					
330	385				148	137	135					
320	363	446			147	133	132					
310	329	444			145	127	128					
300	284	429			138	119	120					
290	229	399	417		131	111	112	389			1433	
280	176	356	417		122	99.6	101	388			1429	
270	120	290	405		109	84.3	89.4	378	794	1004	1143	1396
260	77.9	211	369	219	96.2	66.3	77.6	352	792	996	1131	1324
250	49.3	119	312	217	83.3	45.9	66.5	316	772	956	1073	1221
240	12.4	62.1	219	204	70.0	12.4	56.6	256	727	883	977	1077
230		12.4	88.6	181	57.7		48.0	174	661	775	841	879
220				141	46.9		40.7	106	566	635	687	684
210				80.9	33.4		23.3	58.7	455	491	550	529
200				12.4	10.1		5.1	12.4	359	385	441	420
190									283	316	365	354
180									232	273	315	315
170									196	238	279	289
160									168	207	251	265
150									144	178	222	238
140									126	156	189	204
130									111	133	163	171
120									102	120	151	153
110									82.9	97.2	110	134

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 21 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	3	3	3	3	3	1	1	1	3	3	3	4
HMIN	109	105	107	109	109	109	218	204	225	218	268	289
SCAT	49.6	60.7	50.0	50.7	43.7	47.5	44.0	39.2	52.8	47.6	43.7	39.1
HMAXF	293	316	295	290	278	287	296	295	345	341	391	373
SHMAX	1141	1427	1167	1172	851	865	488	376	427	336	298	276
KM												
400											446	
390											446	
380											440	524
370											421	523
360											390	509
350										573	477	348
340										572	477	300
330										562	470	248
320		1446								562	453	197
310		1443								509	424	148
300	1277	1422	1341				917	679	468	387	105	82.5
290	1276	1382	1338	1446		1096	913	676	421	340	70.7	12.4
280	1256	1321	1312	1433	1096	1090	888	654	364	290	46.8	
270	1202	1251	1259	1392	1086	1062	839	611	298	238	7.5	
260	1135	1146	1173	1320	1046	1006	767	544	233	180		
250	1039	1013	1071	1228	977	931	661	459	173	128		
240	923	857	944	1100	884	835	503	361	105	86.7		
230	794	709	798	917	767	715	216	246	45.6	54.2		
220	677	572	656	719	644	586	34.9	137		12.4		
210	566	471	535	546	525	461						
200	473	402	437	418	417	361						
190	404	357	373	345	339	290						
180	354	326	331	302	286	239						
170	319	299	300	274	249	202						
160	292	274	273	249	218	171						
150	266	246	245	224	191	146						
140	237	208	211	197	166	126						
130	205	179	178	167	145	110						
120	173	167	166	149	132	101						
110	129	144	127	76.1	84.4	49.0						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q ₁ KP	4	4	4	4	4	3	S3	3	2	2	2	A2
HMIN	251	237	199	199	199	192		219	107	109	107	108
SCAT	42.1	37.8	32.8	36.4	31.1	82.7		35.2	40.6	47.2	49.9	61.6
HMAXF	354	313	275	265	252	337		274	258	268	293	317
SHMAX	319	264	223	123	56	87		150	459	665	873	1311
KM												
360	540											
350	539											
340	525					83.8						
330	494					83.7						
320	450	540				83.0					1316	
310	392	539				81.6					1311	
300	320	524				79.7				949	1290	
290	237	490				77.1				949	1251	
280	149	438	492			73.9		362		934	1194	
270	86.5	352	489	262		69.7		361		898	1129	
260	46.5	243	464	261	143	64.3		348	643	828	845	1030
250		123	420	251	143	58.8		321	637	804	777	910
240		40.6	351	230	138	53.1		280	612	760	696	773
230			256	202	126	47.4		208	566	699	608	645
220			156	158	108	41.6		45.5	503	619	521	532
210			77.1	99.4	78.5	28.2			422	526	441	441
200			12.4	12.4	12.4	12.4			345	424	377	377
190									281	347	330	333
180									227	289	295	301
170									187	247	263	273
160									155	214	233	244
150									129	184	202	208
140									113	159	175	175
130									93.5	140	158	158
120									80.1	122	149	150
110									72.6	76.1	123	129

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 22 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q ₁ KP	2	A2	51	1	1	0	0	0	1	1	1	3
HMIN	109		108	109	109	109	209	199	228	232	228	261
SCAT	48.4		49.0	51.6	45.6	55.9	43.4	44.1	47.2	38.5	44.2	42.1
HMAXF	315		309	302	286	292	292	298	339	330	345	359
SHMAX	1304		1549	1504	1079	1076	548	470	436	343	346	298
KM												
360												508
350												540
340										643		538
330										637	608	524
320	1446									616	598	496
310	1443		1876	1876						579	567	455
300	1412		1860	1875		1316	1004	754	530	515	399	262
290	1351		1806	1851	1446	1315	1004	748	469	448	332	190
280	1256		1711	1791	1441	1299	984	722	400	369	256	114
270	1133		1586	1696	1404	1263	937	673	324	286	185	57.2
260	993		1407	1570	1331	1202	866	612	249	199	123	
250	849		1181	1393	1229	1130	763	534	169	113	79.6	
240	708		941	1173	1085	1022	604	442	87.3	51.6	50.0	
230	584		738	915	903	876	406	341	23.7		12.4	
220	483		570	678	692	699	167	240				
210	416		457	490	517	522	12.4	128				
200	371		387	378	400	373						
190	339		345	317	325	284						
180	314		316	281	276	229						
170	291		294	252	240	194						
160	267		270	224	209	166						
150	238		245	193	178	142						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												60 W		23 MAR 1961	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
O ₄ KP	3	3	3	3	3	2	2	2					4	2	
HMIN	249	230	240	211	241	225	217	199	C4	4	4	2			
SCAT	39.5	33.4	34.7	34.2	43.2	46.9	51.0	32.5		107	109	105			
HMAXF	333	300	307	268	323	325	332	257		274	286	305			
SHMAX	273	215	196	153	149	156	180	180		691	924	1239			
KM															
340	508						251								
330	507				262	240	251								
320	494				262	239	248								
310	463	477	439		257	234	240					1328			
300	419	477	435		244	223	225					1325			
290	362	465	413		223	206	208				1084	1302			
280	284	431	375		198	185	186			834	1080	1258			
270	187	378	314	362	164	157	159			832	1056	1186			
260	87.3	300	222	356	123	128	130	446		816	1006	1102			
250	12.4	207	105	335	70.3	95.6	101	441		780	938	995			
240		95.0		302	62.5	73.3	415			728	849	873			
230				244	30.7	48.5	369			665	739	731			
220				154			300			588	617	602			
210							169			493	503	487			
200							12.4			400	411	403			
190										337	351	348			
180										281	309	310			
170										239	276	280			
160										207	246	248			
150										172	218	212			
140										130	193	190			
130										111	154	176			
120										104	135	168			
110										97.7	78.9	153			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO						60 W				23 MAR 1961			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
O ₄ KP	2	2	2	2	2	1	1	1	1	1	1	2	
HMIN	109	105	107	108	108	107	207	201	209	221	229	260	
SCAT	49.9	52.7	61.3	42.0	50.0	49.2	40.4	44.9	51.7	60.1	53.0	39.3	
HMAXF	298	302	318	296	296	301	300	304	303	345	364	366	
SHMAX	1190	1287	1496	1224	1178	1147	629	663	517	436	365	278	
KM													
370												477	469
360												476	466
350												469	450
340												539	455
330												532	427
320												517	394
310												493	355
300												464	309
290												427	256
280												382	202
270												330	151
260												274	107
250												212	69.9
240												137	45.0
230												62.6	2.5
220												193	201
210												81.2	41.5
200													
190													
180													
170													
160													
150													
140													
130													
120													
110													

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO												60 W		24 MAR 1961	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
O ₄ KP	2	2	2	2	2	3	3	3	52	2	A2	2			
HMIN	245	229	239	198	198	218	204	200	109	108	107	104			
SCAT	39.8	37.4	36.5	41.6	43.9	54.3	52.8	38.6	49.2	42.3	55.2	40.2			
HMAXF	346	312	316	293	298	313	298	259	264	265	304	282			
SHMAX	269	229	193	188	164	177	130	186	478	620	1040	1067			
KM															
350	469														
340	467														
330	451														
320	420	446	389			257									
310	374	446	386			257					1096				
300	315	435	370	323	262	253	193				1094				
290	251	405	340	322	260	246	192				1079	1446			
280	180	363	295	315	251	232	188				1044	1446			
270	112	304	235	297	234	217	180			608	764	991	1416		
260	65.8	231	164	272	210	196	169	410		607	761	924	1342		
250	32.2	144	88.3	237	182	171	155	404		596	733	839	1222		
240		69.8	12.4	196	149	138	136	384		572	689	738	1059		
230		12.4		145	115	94.1	111	354		537	633	631	855		
220				95.4	80.0	26.9	78.7	304		487	564	529	673		
210				57.0	51.7		41.8	212		425	486	439	529		
200				12.4	12.4			354		411	372	430			
190								289		353	327	367			
180								234		310	292	327			
170								189		274	260	296			
160								151		240	225	266			
150								119		206	187	233			
140								93.5		179	168	204			
130								81.3		146	157	184			
120								76.1		123	150	172			
110								63.9		102	136	162			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO								60 W		24 MAR 1961			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
O ₄ KP	2	2			1	1	1	2	2	2	2	0	
HMIN	106	109	104	109	107	108	219	199	216	241	237	269	
SCAT	50.7	56.7	56.5	53.6	52.3	49.7	39.7	45.3	48.0	42.2	43.7	41.6	
HMAXF	290	304	311	310	300	291	286	295	340	339	359	369	
SHMAX	1311	1400	1364	1387	1261	1082	572	466	470	359	379	340	
KM													
370													573
360													567
350													567
340													545
330													503
320													503
310													507
300													449
290													449
280													449
270													449
260													449
250													449
240													449
230													449
220													449
210													449
200													449
190													449
180													449
170													449
160													449
150													449
140													449
130													449
120													449
110													449

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W				25 MAR 1961			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100								
Q _h KP	0	0	1	1	1	1	1						C1	C2	C2	C2				
HMIN	250	226	209	199	178	218	247										108			
SCAT	37.7	38.7	29.5	37.9	37.9	66.4	54.8										45.3			
HMAXF	337	311	279	277	280	326	353										269			
SHMAX	313	332	222	192	136	160	123										811			
KM																				
360																	170			
350																	170			
340	608																167			
330	602																193	162		
320	577	643															193	154		
310	528	643															191	146		
300	460	630															186	133		
290	365	595															179	114		
280	260	542	540	389	262	170	93.3													
270	138	462	526	384	258	161	70.8													
260	67.2	355	481	370	245	147	48.2													
250	3.7	217	406	342	222	129	12.4													
240		106	298	299	190	109														
230		42.5	171	231	151	82.7														
220			80.2	143	102	25.6														
210			12.4	70.8	60.4															
200				12.4	12.4															
190																				
180																				
170																				
160																				
150																				
140																				
130																				
120																				
110																				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W				25 MAR 1961			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300								
Q _h KP	1	1	1	1	1	1	A1	1	1	1	1	2								
HMIN	109	108	108	109	109	109	201	199	200	217	228	241								
SCAT	56.0	50.6	52.3	45.6	55.6	44.3	37.6	49.4	45.1	40.8	52.4	39.7								
HMAXF	304	308	305	289	306	285	297	316	318	326	359	341								
SHMAX	1130	1336	1405	1171	1195	920	577	651	522	385	492	345								
KM																				
360																				
350																				
340																				
330																				
320																				
310	1096	1446	1554		1316					939	794	640	575	565						
300	1094	1437	1551		1312		1050			911	760	576	453	448						
290	1078	1401	1522	1446	1289	1228	1039			870	712	518	372	364						
280	1044	1334	1464	1432	1266	1224	990			810	649	445	288	277						
270	993	1228	1375	1383	1177	1196	907			735	568	361	210	181						
260	924	1118	1246	1296	1095	1139	806			642	481	272	141	100						
250	845	977	1120	1177	981	1055	675			534	382	180	88.3	50.4						
240	756	831	961	1031	846	933	511			414	275	106	52.6							
230	667	699	799	869	701	792	337			284	178	60.7	12.4							
220	583	582	658	712	568	633	175			159	93.8	19.6								
210	508	495	543	569	464	476	72.7			78.1	5.7									
200	448	432	454	457	386	362														
190	403	388	390	381	330	284														
180	368	357	345	330	291	234														
170	338	330	311	296	258	197														
160	312	305	285	268	228	165														
150	288	278	258	243	193	140														
140	264	249	225	218	161	125														
130	210	216	191	189	143	110														
120	187	189	171	170	134	104														
110	97.2	98.4	128	110	78.9	90.8														

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W				26 MAR 1961			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100								
Q _h KP	2	2	3	3	3	3	3	3					C2	C2						
HMIN	211	225	207	199	214	197	221	209									106	108		
SCAT	47.7	46.7	34.0	36.1	53.9	65.8	47.1	29.5									44.5	54.2		
HMAXF	328	315	291	273	330	329	340	264									285	309		
SHMAX	444	337	224	150	196	170	126	185									1096	1374		
KM																				
340																				
330	679																			
320	674	573																		
310	654	572																		
300	617	559	469																	
290	569	533	469																	
280	501	499	458	310	205	166	108													
270	415	439	424	309	180	155	88.9	508												
260	315	354	374	299	152	141	71.1	506												
250	210	248	301	277	121	123	56.3	481												
240	132	123	213	245	91.1	102	44.4	428												
230	80.3	47.7	125	197	62.1	80.2	23.3	326												
220	46.4		66.8	138	35.9	60.3		150												
210			19.9	69.8		44.1		12.4												
200				12.4		12.4														
190																				
180																				
170																				
160																				
150																				
140																				
130																				
120																				
110																				

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W				26 MAR 1961			
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ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	2	2	2	2	2	3	3	3	3	3	3	A6
HMIN	231	218	214	198	197	197	206	199	109	107	109	105
SCAT	46.2	32.2	36.0	32.9	54.6	54.2	42.5	34.2	40.2	44.7	40.8	60.6
HMAXF	341	297	292	274	320	329	300	272	256	272	281	323
SHMAX	410	306	287	163	201	191	118	214	498	766	920	1445
KM												
350	643											
340	643											
330	633					219					1420	
320	609				268	218					1419	
310	669				265	214					1404	
300	515	670	608		258	208	198				1370	
290	443	661	607		247	199	196			1119	1310	
280	357	618	500	362	234	187	188	477		917	1119	1237
270	263	547	551	360	214	173	174	476		917	1098	1152
260	165	449	487	345	186	156	154	463	679	901	1036	1036
250	92.7	326	383	314	153	137	131	428	675	860	956	907
240	49.3	190	261	265	119	116	104	375	651	797	864	770
230	88.3	121	193	86.3	92.2	76.6	288	604	720	759	642	
220	24.6	50.9		114	61.8	69.0	50.6	178	540	636	646	533
210				61.7	66.7	48.5	17.4	82.8	468	549	538	452
200				12.4	12.4	12.4		12.4	393	471	451	394
190								326	403	384	352	
180								268	346	335	319	
170								221	296	300	290	
160								187	255	269	252	
150								157	219	239	221	
140								134	188	210	203	
130								115	160	182	192	
120								103	140	156	164	
110								55.6	123	97.2	161	

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 27 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	A6	6	5	5	5	2	A2	2	4	4	4	4
HMIN	107	108	107	111	110			199	198	209	248	250
SCAT	49.8	52.5	62.8	52.3	66.2			50.3	44.3	44.1	44.0	43.1
HMAXF	319	323	348	320	332			322	320	334	362	371
SHMAX	1719	1546	1803	1647	1776			1063	688	605	480	494
KM												
380												794
370												754
360												754
350												740
340				1669								706
330				1662		1786						691
320				1667	1585	1907	1770					686
310				2032	1644	1507	1891	1735				615
300				1960	1590	1413	1840	1680				521
290				1858	1501	1304	1749	1598				409
280				1722	1386	1168	1625	1504				291
270				1546	1247	1023	1476	1390				188
260				1322	1065	886	1297	1236				122
250				1063	893	764	1076	1087				12.4
240				859	744	661	875	915				1.5
230				678	618	570	696	749				
220				537	515	490	547	593				
210				442	445	425	443	463				
200				384	394	376	373	356				
190				363	358	337	323	280				
180				310	329	306	283	229				
170				281	301	279	249	193				
160				249	271	252	218	164				
150				217	237	225	188	140				
140				193	204	198	161	120				
130				177	181	178	142	105				
120				168	168	166	130	101				
110				150	122	111	12.4					

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O.K.P	4	4	4	4	4	3	53	3	C3	3	3	3
HMIN	236	227	223	190	199	204	209	199		106	109	111
SCAT	43.0	37.4	42.3	41.9	46.9	59.6	55.3	38.3		54.0	42.4	54.2
HMAXF	343	350	310	291	282	347	354	284		286	278	303
SHMAX	453	402	429	332	212	156	182	289		1133	1072	1400
KM												
360							219					
350	754	679				179	218					
340	754	668				178	215					
330	737	631				175	209					
320	699	571	794			170	198					
310	643	495	794			162	183					
300	566	405	782	590		150	165					
290	474	314	747	590	355	136	145	573		1341		
280	355	229	689	580	355	121	124	572		1338	1446	1482
270	232	161	615	551	349	105	103	554		1313	1434	1404
260	131	109	493	509	334	89.6	83.8	517		1266	1381	1308
250	72.7	73.2	328	447	312	74.2	68.6	460		1193	1282	1178
240	28.3	48.2	169	364	283	60.4	55.8	375		1104	1154	1028
230		12.4	58.5	266	242	48.8	45.1	246		982	989	869
220				159	191	38.0	28.7	135		831	798	703
210				74.7	126	14.7	5.4	67.8		673	614	571
200				12.4	12.4			12.4		531	486	467
190								421	402	396		
180								337	347	347		
170								281	304	308		
160								238	268	276		
150								203	236	243		
140								172	207	209		
130								149	176	179		
120								132	151	161		
110								98.4	84.9			

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 28 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.K.P	3	3	2	2	2	A1	A1	1	1	1	1	1
HMIN	108	109	109	108	109			199	198	237	220	240
SCAT	63.1	51.7	56.0	53.3	57.4			49.9	50.9	45.4	38.5	37.3
HMAXF	316	308	319	322	313			309	329	333	338	354
SHMAX	1586	1515	1528	1625	1462			662	526	494	410	417
KM												
360												754
350												714
340												739
330												679
320	1555			1555	1785	1640						636
310	1552	1727	1545	1764	1639							566
300	1532	1716	1510	1712	1620							480
290	1491	1673	1451	1625	1576							385
280	1428	1594	1362	1514	1502							291
270	1346	1490	1257	1365	1413							199
260	1247	1351	1124	1198	1294							128
250	1135	1183	985	1021	1132							79.2
240	997	982	850	841	957							47.4
230	848	791	722	674	773							1.1
220	708	637	615	546	606							
210	583	515	526	455	469							
200	486	436	452	391	368							
190	417	382	397	345	308							
180	367	342	353	309	266							
170	331	310	316	276	232							
160	302	279	282	243	199							
150	272	248	249	212	170							
140	240	218	214	180	150							
130	205	195	182	159	139							
120	184	183	168	149	131							
110	134	76.1	119	85.0	55.6							

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

29 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	1	1	1	1	2	2	2	2	2	2	2	A1
HMIN	240	217	199	198	216	237	239	207	109	109	106	109
SCAT	37.7	39.2	28.0	51.5	56.3	45.9	33.4	26.6	40.9	46.1	55.3	51.0
HMAXF	318	295	260	300	347	335	308	247	249	281	305	305
SHMAX	395	370	180	166	191	148	119	190	536	907	1351	1394
KM												
350					240							
340					239	235						
330					235	234						
320	794				226	229						
310	784				214	217	262			1446	1555	
300	747	754			240	199	201	258		1096	1444	1551
290	684	751			238	179	179	243				
280	596	727			231	155	151	215		1095	1375	1459
270	459	680	484		220	129	120	176		1079	1300	1366
260	284	603	484	202	101	86.3	128			1035	1206	1249
250	141	481	466	182	76.5	55.1	73.0	643	794	967	1095	1100
240		305	421	159	56.5	18.1	12.4	632	784	877	961	941
230		129	343	134	42.0			581	751	776	820	786
220		40.6	219	102	12.4			465	692	660	689	653
210			88.4	63.3				103	617	549	571	545
200			12.4	12.4					518	456	477	458
190									407	384	405	395
180									308	328	350	352
170									239	282	304	316
160									192	245	269	283
150									60	212	238	250
140									133	182	209	217
130									111	154	177	188
120									101	134	154	168
110									55.6	76.1	127	90.5

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

9 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	1	1	2	3	3	1	A1	1	1	3	3	4
HMIN	106	107	109	100	107	110		203	196	209	246	249
SCAT	47.4	47.3	52.0	40.5	48.3	55.0		48.3	46.3	44.6	42.6	45.8
HMAXF	309	302	308	307	273	310		316	320	325	359	380
SHMAX	1523	1520	1568	1508	1264	1264		908	631	502	409	460
KM												
380												670
370												662
360												643
350												635
340												610
330												563
320												506
310	1786	1846	1786	1786		1446		1341	917	752	506	339
300	1768	1845	1774	1777	1597	1435		1136	907	733	439	314
290	1712	1816	1730	1733	1596	1399		1105	876	691	367	241
280	1606	1736	1650	1650	1571	1339		1245	821	636	284	168
270	1468	1624	1539	1533	1501	1258		1155	750	570	195	113
260	1185	1470	1397	1380	1410	1147		1039	666	493	120	75.0
250	1095	1303	1232	1203	1284	1024		892	573	406	68.6	47.6
240	907	1082	1033	1015	1119	877		737	470	313	33.1	7.1
230	741	880	850	810	932	712		566	355	215		
220	603	703	682	637	736	563		386	243	126		
210	505	555	545	500	570	440		217	142	65.4		
200	437	456	451	435	440	347		80.9	73.4	12.4		
190	387	390	388	346	359	280						
180	351	344	343	324	301	232						
170	321	315	306	290	260	196						
160	294	291	275	258	226	167						
150	264	263	246	225	195	142						
140	227	226	214	192	171	123						
130	191	185	184	166	147	109						
120	171	169	167	152	133	101						
110	143	135	97.7	110	88.2	12.4						

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q _{KP}	4	4	4	4	4	2	2	2	52	2	2	1
HMIN	259	257	252	205	219	201	219	219	108	109	107	107
SCAT	37.4	46.5	43.6	41.6	35.9	42.4	60.7	26.0	54.6	55.7	52.4	54.4
HMAXF	362	383	359	308	297	287	360	274	276	289	306	314
SHMAX	365	396	358	346	247	238	258	215	716	1083	1328	1479
KM												
390												
380												
370	643	563										
360	642	539	573				298					
350	626	502	567				296					
340	583	452	546				290					
330	522	394	509				278					
320	448	327	457				263				1528	
310	363	258	391	573			245			1341	1525	
300	271	195	319	568	508		224			1338	1501	
290	188	136	246	546	502	439	199			1240	1319	1451
280	114	87.0	164	504	478	436	173	643	834	1231	1282	1369
270	59.6	54.6	94.3	451	434	422	145	640	831	1202	1228	1269
260	4.5	17.9	47.3	384	367	396	118	597	815	1154	1161	1146
250				312	281	359	88.5	509	785	1086	1071	1012
240				234	180	299	61.5	347	742	995	958	872
230				152	87.9	211	42.3	118	685	879	833	740
220				83.7	12.4	118	4.1	12.4	610	739	706	624
210				42.3					527	591	590	528
200					58.0				441	466	487	453
190									360	378	406	399
180									291	319	344	361
170									232	278	299	329
160									185	241	260	300
150									155	206	228	270
140									132	175	198	238
130									114	151	169	206
120									103	134	152	175
110									67.3	84.4	125	150

ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

30 MAR 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q _{KP}	1	1	1	1	A1	A0	A0	0	0	A0	0	0
H _{MIN}	108	108	107	107				200	232	197	273	298
SCAT	51.8	44.6	44.5	45.1				49.1	44.3	46.9	45.3	39.8
H _{MAXF}	318	306	310	301				299	351	341	377	361
S _{HMAX}	1647	1694	1691	1489				662	585	517	429	391
K _M												
380											679	
370											674	679
360									875		654	679
350									875	716	614	666
340									862	716	562	531
330									825	706	494	576
320	1786								765	679	408	503
310	1776	2128	2032	1907					692	633	312	413
300	1734	2117	2012	1906				960	604	577	219	313
290	1656	2056	1952	1877				952	506	508	128	210
280	1546	1933	1844	1801				924	404	432	55.5	120
270	1404	1765	1704	1675				871	303	349		63.3
260	1239	1561	1522	1506				805	206	266		12.4
250	1086	1326	1309	1303				731	116	197		
240	910	1089	1049	1069				646	54.5	142		
230	746	844	830	837				543		100		
220	610	659	651	652				423		69.3		
210	506	526	509	514				269		47.2		
200	435	443	420	416				12.4		12.4		
190	385	388	361	356								
180	349	350	325	314								
170	320	320	298	282								
160	295	292	274	254								
150	268	263	245	227								
140	236	230	212	198								
130	205	199	183	176								
120	188	185	169	164								
110	149	135	134	104								

RAMEY AFB, PUERTO RICO 60 W 31 MAR 1961

RAMEY AFB, PUERTO RICO 60 W 31 MAR 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q,KP	1	1	A1	1	1	1	1	1	2	2	2	3
HMIN	239	234	220	199	198	244	220	225	109	109	107	108
SCAT	40.6	30.5	29.9	36.7	60.5	55.3	51.8	32.6	37.6	42.9	45.6	59.3
HMAX	333	298	270	265	216	346	339	284	260	274	281	317
SHMIN	394	279	202	145	145	113	119	211	550	772	969	1434
KM												
350						156						
340	716					156	161					
330	715					153	159					
320	697				179	147	155					1446
310	656				179	139	148					
300	595	698			176	129	137					1415
290	512	685			171	116	124	532			1191	1370
280	403	636	557		163	100	108	530		1004	1191	1299
270	269	549	547	329	152	81.2	90.0	508		1002	1175	1213
260	139	409	541	327	140	60.1	73.4	463	934	978	1128	1108
250	78.2	229	496	313	126	36.3	58.3	386	820	924	1054	666
240	12.4	73.9		408	284	109	45.5	233	773	847	860	842
230			257	240	200.0		25.8	58.9	701	744	850	702
220			12.4	177	70.2				607	631	727	566
210				92.1	50.2				494	512	589	469
200				12.4	12.4				380	415	472	408
190									291	347	384	366
180									231	297	326	335
170									186	254	286	307
160									153	217	253	279
150									128	187	224	251
140									109	160	195	215
130									94.7	141	171	183
120									87.1	121	152	168
110									63.2	98.3	127	98.7

RAMEY AFB, PUERTO RICO 60 W 31 MAR 1961

RAMEY AFB, PUERTO RICO 60 W 31 MAR 1961

[illegible]

AVERAGE ELECTRON DENSITY												KP BELOW 4.5														
RAMEY AFB, PUERTO RICO												MAR 1961														
60 W												60 W														
TIME												TIME														
COUNT												COUNT														
KP												KP														
HMIN												HMIN														
RATIO												RATIO														
SCAT												SCAT														
HMAX												HMAX														
HMAXF												HMAXF														
SHMAX												SHMAX														
SHINF												SHINF														
KM												KM														
950	35.7	30.9	25.2	17.2	14.5	11.2	12.0	22.2	34.6	47.8	65.0	82.7	950	91.2	94.4	97.4	86.8	76.3	72.6	60.6	52.3	40.3	37.9	40.3	41.0	41.0
900	45.8	35.7	32.4	22.1	18.6	14.4	15.4	28.5	44.5	61.3	83.5	106	900	117	121	125	111	97.9	93.2	77.8	67.1	51.7	48.6	51.6	52.7	52.7
850	58.7	50.9	41.6	28.4	23.9	18.4	19.8	36.5	57.1	78.7	107	136	850	150	155	160	143	126	120	99.8	86.1	66.3	62.3	66.2	67.7	67.7
800	75.2	65.2	53.3	36.4	30.7	23.6	25.4	46.9	73.2	101	137	175	800	193	199	206	183	161	153	128	110	85.0	79.9	84.8	86.7	86.7
750	96.3	83.5	68.3	46.7	30.2	32.5	60.1	93.8	129	176	224	275	750	247	255	264	235	207	197	164	141	109	102	108	111	111
700	123	107	87.3	59.8	38.6	41.4	76.9	120	166	225	286	366	700	316	327	337	300	264	251	210	181	139	131	138	141	141
650	157	136	111	76.3	60.4	49.2	52.7	98.3	154	212	288	366	650	403	417	430	383	337	321	268	231	177	166	176	180	180
600	198	173	142	75.2	81.5	62.3	66.7	125	196	270	366	464	600	512	530	547	487	429	409	341	294	221	221	227	227	227
550	248	218	179	123	103	78.2	83.5	159	249	342	464	587	550	647	670	691	616	543	517	432	371	283	263	276	283	283
500	307	271	224	155	128	96.7	103	200	314	431	582	734	500	808	838	862	770	680	648	541	464	352	324	337	346	346
490	319	282	234	161	134	101	107	209	329	450	608	766	490	844	875	900	804	710	677	565	484	367	337	350	359	359
480	332	294	244	169	140	105	111	218	344	470	634	799	480	880	912	938	839	741	706	590	505	382	350	363	372	372
470	344	306	254	176	146	109	115	238	359	491	662	833	470	917	951	978	874	772	736	615	526	398	363	375	385	385
460	357	318	264	184	151	113	119	238	375	513	690	867	460	955	990	1018	910	805	767	641	548	413	378	389	397	397
450	369	330	275	191	157	117	123	248	391	535	719	902	450	993	1030	1058	947	838	799	668	570	429	385	399	410	410
440	382	342	286	199	163	121	127	258	408	557	748	937	440	1031	1070	1099	984	871	831	695	592	465	401	411	422	422
430	394	354	296	207	170	125	131	269	425	580	777	972	430	1070	1111	1140	1021	905	863	722	614	460	413	422	433	433
420	405	368	307	215	176	129	135	279	443	603	807	1008	420	1108	1151	1181	1058	938	895	749	636	476	425	432	443	443
410	416	378	318	223	182	132	138	280	461	626	836	1043	410	1147	1192	1221	1095	972	928	776	658	491	436	441	453	453
400	427	389	328	231	187	136	142	301	479	649	866	1077	400	1184	1231	1261	1131	1005	960	803	680	505	446	449	461	461
390	436	400	348	239	193	139	144	311	497	673	895	1111	390	1221	1270	1299	1166	1037	991	830	701	519	455	455	468	468
380	444	410	348	247	198	141	147	322	515	696	923	1143	380	1255	1307	1336	1200	1069	1022	856	722	532	462	460	474	474
370	451	419	358	254	204	144	149	332	532	718	950	1174	370	1289	1342	1370	1233	1099	1051	881	741	543	467	462	476	476
360	456	427	366	261	208	145	150	342	550	740	976	1202	360	1319	1375	1402	1263	1158	1079	904	759	554	470	459	474	474
350	459	433	374	268	213	146	151	352	567	761	1000	1228	350	1347	1405	1431	1290	1154	1105	926	775	562	470	449	464	464
340	457	437	380	275	216	146	150	360	583	781	1023	1250	340	1371	1431	1455	1314	1177	1128	946	789	568	466	432	444	444
330	449	437	385	280	219	145	147	369	599	799	1042	1269	330	1390	1453	1476	1334	1197	1148	963	801	571	456	405	414	414
320	432	435	387	285	221	142	143	376	613	815	1051	1284	320	1405	1470	1490	1350	1214	1165	978	809	568	438	370	374	374
310	404	429	387	289	221	139	136	382	626	829	1072	1293	310	1413	1481	1496	1358	1225	1177	989	813	559	410	326	323	323
300	364	416	383	291	219	135	127	387	637	840	1080	1294	300	1410	1483	1490	1356	1230	1183	996	810	542	375	275	263	263
290	313	395	374	292	215	127	116	390	647	849	1082	1281	290	1390	1466	1464	1340	1225	1182	994	798	515	332	222	203	203
280	249	363	356	289	208	120	100	390	654	853	1073	1280	280	1346	1424	1414	1305	1204	1170	975	773	481	283	167	148	148
270	180	320	329	282	195	111	85.7	385	658	850	1045	1197	270	1274	1352	1339	1242	1160	1135	929	731	437	229	118	105	105
260	114	263	286	269	177	99.4	67.8	370	656	834	993	1117	260	1174	1253	1236	1152	1030	1076	848	668	383	174	80.6	69.5	69.5
250	63.5	192	228	248	152	86.4	48.4	340	644	798	917	1012	250	1050	1124	1103	1036	993	987	730	585	320	123	54.2	42.2	42.2
240	29.0	119	166	218	123	70.6	32.8	288	617	744	821	985	240	907	967	951	898	872	871	558	484	249	77.1	35.1	24.5	24.5
230	12.2	57.3	105	174	94.5	54.0	23.1	177	571	672	708	745	230	756	798	789	748	733	733	331	263	176	43.2	20.2	16.1	16.1
220	6.5	16.8	48.4	121	64.5	35.9	12.6	137	504	584	590	610	220	617	645	635	605	591	584	141	236	107	21.4	10.4	9.7	9.7
210	1.5	4.1	18.3	62.9	38.8	23.4	6.4	62.2	423	489	483	496	210	503	519	507	485	468	450	42.9	115	48.9	9.4	4.3	4.3	4.3
200			1.6	8.3	6.6	5.1	1.1	13.1	341	401	399	411	200	418	426	414	396	374	341	3.4	9.5	5.5	1.2	.4	.4	.4
190								5.2	269	332	340	354	190	362	364	352	335	309	265							
180								4.0	213	280	298	315	180	324	324	313	294	265	214							
170								3.2	171	241	265	285	170	296	295	284	263	232	180							
160								2.6	139	207	234	257	160	272	270	257	235	203	152							
150								2.5	116	176	205	228	150	245	244	229	206	174	129							
140								2.1	100	150	177	198	140	214	214	199	179	149	111							
130								1.6	89.2	129	153	172	130	185	186	173	158	132	100							
120								.4	81.1	115	139	156	120	168	169	159	145	123	93.4							
110									46.3	78.9	90.8	106	110	116	109	110	87.5	73.1	51.4							

TABLES OF IONOSPHERIC DATA

FEBRUARY 1961 - OCTOBER 1955

Table 1

Table 2

Washington, O. C. (38.7° N, 77.1° W)							
February 1961							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.1 28	275				3.00
01		2.9 28	285				3.00
02		3.0 28	<290				2.90
03		2.85 28	285				2.95
04		2.8 28	280				3.02
05		2.9 28	270				3.05
06		2.7 28	260				3.10
07		3.8 28	250		(145)	1.75	3.25
08	235	5.85 28	230		115	2.15	3.40
09	(240)	7.0 28	220		109	2.65	3.35
10	255	7.4 28	210	---	105	2.95	3.30
11	270	7.95 28	210	---	105	3.10	3.28
12	270	8.55 28	210	---	109	3.20	3.18
13	260	8.45 28	210	---	109	3.20	3.15
14	270	8.5 28	220	---	109	3.10	3.15
15	260	8.55 28	220	---	109	2.90	3.25
16	240	8.05 28	225		110	2.50	3.30
17	(235)	7.7 28	235		121	1.95	3.25
18		7.15 28	225		---	---	3.25
19		6.15 28	220				3.18
20		5.1 28	235				3.18
21		4.25 28	240				3.15
22		3.65 28	260				3.08
23		3.4 28	265				3.00

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 Seconds.

Washington, O. C. (38.7° N, 77.1° W)							
January 1961							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.0 31	300				2.90
01		2.95 30	300				2.85
02		3.2 30	285				2.90
03		3.2 29	270				3.00
04		3.2 29	275				3.05
05		3.25 30	<265				3.02
06		3.1 31	270				3.10
07		3.4 30	250				3.10
08		5.8 31	230		<130	2.00	3.40
09	245	7.3 31	225		113	2.48	3.40
10	250	8.4 31	220		113	2.85	3.30
11	250	9.2 31	220		115	3.05	3.30
12	250	9.0 30	210		111	3.10	3.25
13	255	8.9 30	220		113	3.10	3.18
14	255	9.0 30	225		113	2.95	3.20
15	250	8.9 30	230		111	2.65	3.20
16	240	8.6 31	230		119	2.35	3.25
17		7.7 31	230		<140	1.70	3.25
18		7.0 31	225				3.20
19		5.8 30	230				3.25
20		4.5 31	235				3.20
21		3.65 30	260				3.00
22		3.4 30	270				2.98
23		3.1 29	280				2.95

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Table 4

Resolute Bay, Canada (74.7° N, 94.9° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.8 29	285				2.80
01		3.9 29	290				(2.85)
02		4.0 31	285				2.85
03		3.7 31	285				2.90
04		3.7 30	290				(2.80)
05		3.7 31	300				(2.85)
06		4.2 30	300				(2.80)
07		5.2 29	300				(2.80)
08		5.2 26	300				(2.65)
09		5.6 26	290				(2.60)
10		6.0 28	280				(2.75)
11		6.8 29	250				(3.05)
12		6.4 29	260				2.80
13		6.3 29	250				(2.95)
14		6.7 29	250				---
15		6.4 28	255				(2.70)
16		6.0 31	270				2.80
17		6.0 31	280				(2.75)
18		5.8 30	280				(2.80)
19		5.5 29	270				---
20		5.4 30	280				2.80
21		4.6 28	280				(2.90)
22		4.5 29	280				(2.80)
23		4.0 27	280				(2.85)

Time: 90.0°W.
Sweep: 1.5 Mc to 20.0 Mc in 15 seconds.

Tromsø, Norway (69.7° N, 19.0° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		(3.4) 2	---				4.2
01		(3.2) 2	---				4.0
02		(3.8) 3	---				4.7
03		(3.8) 2	(320)				4.2
04		(3.9) 7	(320)				3.8
05		3.8 11	305				3.0
06		3.8 12	(310)				2.3
07		2.8 14	(285)				2.70
08		3.2 16	(290)				(2.70)
09		3.9 18	260				2.70
10		5.3 21	250			1.50	2.80
11		5.9 23	245			---	2.90
12		6.0 23	245		120	1.65	3.05
13		5.4 16	245		---	1.60	3.10
14		4.1 13	270		---	---	2.5
15		(3.2) 10	(250)		---	---	(2.90)
16		(2.5) 9	(265)		---	---	2.7
17		(2.4) 4	---		---	---	3.0
18		(2.6) 4	---		---	---	4.6
19		(2.9) 11	---		---	---	3.4
20		(2.8) 1	---		---	---	4.6
21		(4.3) 1	---		---	---	3.8
22		(4.2) 2	---		---	---	4.4
23		(4.9) 1	---		---	---	4.6

Time: 15.0°E.
Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 5

Table 6

Kiruna, Sweden (67.8° N, 20.3° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		(3.7) 6	350				5.0
01		(3.3) 4	350				---
02		(3.2) 6	340				4.5
03		(3.2) 5	335				4.0
04		3.3 13	320				4.0
05		3.3 16	300				(2.6)
06		3.0 21	290				3.7
07		2.8 18	290				2.6
08		3.0 24	265				2.8
09		3.9 29	260				2.7
10		5.6 27	250				2.8
11		6.5 27	245			1.4	3.0
12		7.1 27	235			---	3.1
13		6.6 21	240			---	3.0
14		4.2 24	250				3.0
15		3.6 18	255				2.8
16		3.2 19	275				3.0
17		3.3 13	275				2.8
18		(2.8) 6	(270)				2.6
19		(3.0) 8	320				3.8
20		(2.8) 8	320				(2.8)
21		(3.2) 2	345				4.1
22		(2.6) 3	340				4.0
23		(3.2) 6	360				4.8

Time: 15.0°E.
Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Sodankylä, Finland (67.4° N, 26.6° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		---	0 360				3.5
01		---	0 350				(3.6)
02		---	0 350				3.5
03		---	0 340				3.2
04		(4.0) 4	340				2.8
05		(3.0) 2	310				2.5
06		---	0 300				---
07		(3.4) 2	310				---
08		(3.0) 2	300				---
09		(4.1) 6	270				---
10		5.3 17	250			E	2.95
11		6.3 18	250			---	2.8
12		7.6 17	240			---	(3.3)
13		7.4 15	230			---	3.10
14		5.9 13	230			---	3.1
15		(6.6) 8	250			E	(3.15)
16		(5.2) 2	260			---	2.1
17		(5.6) 1	280			---	2.8
18		(3.9) 5	290			---	2.5
19		(4.9) 1	290			---	3.7
20		(4.6) 1	330			---	3.6
21		(4.2) 1	320			---	3.6
22		---	0 355			---	4.1
23		(3.8) 2	360			---	4.0

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 7

Lulea, Sweden (65.6° N, 22.1° E)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.2 14	325				(2.4)	2.7	
01		3.6 14	330				(2.2)	2.7	
02		3.7 17	320				1.0	2.7	
03		3.2 18	300					2.8	
04		3.4 17	300					2.8	
05		3.0 20	285					2.9	
06		2.9 22	280					2.8	
07		2.6 19	275					2.8	
08		3.4 24	260					2.9	
09		4.7 23	250		---	---		3.1	
10		6.4 25	240		---	---		3.1	
11		8.2 23	230		---	---		3.2	
12		8.0 24	240		---	---		3.2	
13		6.9 23	225		---	---		3.2	
14		6.0 19	240					3.2	
15		5.0 19	245					3.2	
16		3.8 12	250				(3.15)		
17		3.2 14	250				1.7	3.0	
18		2.3 13	255				(2.0)	2.95	
19		2.8 16	275				(1.9)	2.9	
20		3.0 12	290				(2.2)	2.9	
21		2.9 14	330				(2.2)	2.8	
22		2.8 13	310				(2.5)	2.8	
23		3.6 14	335				(2.1)	(2.7)	

Time: 15.0°E.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 9

Lycksele, Sweden (64.6° N, 18.8° E)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		(3.8)	25	310			3.2	(2.55)	
01		(3.3)	23	305			3.0	(2.6)	
02		(3.3)	26	300			3.2	(2.6)	
03		(3.5)	28	300			3.0	(2.6)	
04		(3.6)	27	290			3.1	(2.6)	
05		(3.3)	29	275			3.0	(2.7)	
06		3.1	30	280			2.3	2.7	
07		2.8	30	270			2.3	2.7	
08		3.3	28	250		(1.10)	2.7	2.7	
09		4.5	30	240		105	1.40	3.0	
10		5.9	31	230		---	(1.55)	3.1	
11		7.8	30	230		---	---	3.0	
12		8.0	30	230		---	(1.70)	3.0	
13		7.1	31	225		---	(1.70)	3.0	
14		6.3	29	220		---	(1.50)	2.7	
15		5.1	27	230		---	1.15	2.6	
16		3.5	24	230		---	---	3.0	
17		2.9	22	245		---	---	2.6	
18		(2.3)	21	240		---	---	3.1	
19		(2.6)	18	260		---	---	3.1	
20		(3.1)	23	260		---	---	3.1	
21		(3.0)	23	300		---	---	3.0	
22		(3.0)	20	315		---	---	3.1	
23		(3.1)	21	310		---	---	3.2	

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 11

Nurmijarvi, Finland (60.5° N, 24.6° E)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		---	0						
01		(2.4)	1						
02		(2.4)	1						
03		---	0						
04		(2.4)	1						
05		---	0						
06		(2.6)	1						
07		(2.5)	1						
08		(2.4)	4						
09		4.8	13				3.15		
10		6.6	18				3.30		
11		8.1	19				3.30		
12		9.3	21				3.30		
13		9.2	21				3.40		
14		8.2	19				3.40		
15		7.4	17				3.40		
16		6.0	10				3.40		
17		(5.6)	5				(3.20)		
18		(3.5)	6				(3.20)		
19		(3.2)	1				---		
20		(2.4)	2				---		
21		(2.9)	1				---		
22		---	0				---		
23		---	0				---		

Time: 30.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 8

Fairbanks, Alaska (64.9° N, 147.8° W)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(3.55)	4				4.7	---	
01		(3.75)	4				5.0	---	
02		(3.2)	1				5.0	---	
03		(4.5)	1				4.8	---	
04		(3.55)	4				5.5	---	
05		(3.5)	9				5.0	(2.60)	
06		(3.3)	8				3.2	(2.75)	
07		(3.0)	9					(2.68)	
08		(3.7)	12					(2.85)	
09		(4.2)	18					(3.08)	
10		5.4	19					3.20	
11		6.15	20					3.28	
12		6.7	21					3.22	
13		7.0	26					3.15	
14		7.2	26					3.20	
15		6.75	28					3.18	
16		5.9	25					3.15	
17		4.3	20					3.30	
18		(3.75)	18					(3.30)	
19		(3.1)	15				1.9	3.02	
20		(3.4)	7				2.9	(3.05)	
21		(3.1)	13				3.5	(3.10)	
22		(3.7)	6				3.8	(3.15)	
23		(4.5)	11				4.5	(3.05)	

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Anchorage, Alaska (61.2° N, 149.9° W)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		(4.0)	13		---	---		(3.00)	
01		(3.7)	11		---	---		(2.88)	
02		(3.7)	11				3.0	(2.75)	
03		(3.25)	8					(2.60)	
04		3.5	10					(2.55)	
05		(3.4)	6					(2.68)	
06		(3.9)	7					(2.70)	
07		(3.5)	9					(2.68)	
08		(3.6)	11					(2.90)	
09		(4.2)	18					(3.10)	
10		6.15	20					3.12	
11		6.9	23					3.20	
12		7.6	25					3.15	
13		8.6	25					3.20	
14		7.8	28					3.20	
15		7.6	27					3.10	
16		6.85	26					3.18	
17		5.3	24					3.15	
18		(4.3)	16					(3.25)	
19		(3.1)	11					(3.05)	
20		(3.3)	10					(2.98)	
21		(2.9)	6					(2.80)	
22		(3.5)	7					(2.90)	
23		(3.1)	7				3.0	(2.92)	

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Upsala, Sweden (59.8° N, 17.6° E)									
December 1960									
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2	
00		(1.9)	18	310			3.0	(2.6)	
01		1.8	23	305		---	3.1	2.6	
02		1.7	25	300		---	3.1	2.6	
03		1.9	25	290		---	3.0	2.6	
04		2.0	27	290			2.8	2.7	
05		2.1	28	255			2.5	2.7	
06		2.4	26	260			2.5	2.75	
07		2.2	28	260			2.4	2.7	
08		3.8	30	240		<145	1.30	2.9	
09		5.0	31	220		---	1.85	3.3	
10		7.4	30	220		---	2.10	4.5	
11		8.4	29	220		<150	2.20	4.5	
12		0.9	29	220		---	2.15	4.4	
13		8.8	30	215		(140)	2.15	4.4	
14		7.8	31	210		---	1.85	3.3	
15		7.2	31	210		<145	1.50	3.4	
16		6.2	30	210		---	---	2.5	
17		4.5	28	220		---	---	2.5	
18		2.7	29	230		---	---	2.5	
19		2.5	27	260		---	---	2.3	
20		2.0	26	275		---	---	2.5	
21		2.0	20	295		---	---	2.5	
22		1.9	17	325		---	---	2.5	
23		(1.8)	19	310		---	---	2.5	

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 13

Churchill, Canada (58.8° N, 94.2° W)									
December 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		4.2 23	300				4.9		
01		3.8 27	325				5.0	----	
02		3.7 27	310				3.9	----	
03		3.3 27	310				3.0	----	
04		3.8 24	(375)		---	----	3.3	----	
05		3.4 21	(370)				3.2	----	
06		3.8 19	(330)				3.6	----	
07		3.6 20	---				4.0	----	
08		4.1 20	(360)				3.3	----	
09	---	5.0 25	300	---	---	----			
10	---	6.0 28	280	---	---	----	3.15		
11	---	7.0 27	260	---	---	2.60	3.20		
12	---	8.5 27	260	---	---		3.10		
13	---	10.0 29	250	---	---	(2.50)	3.15		
14	---	10.1 29	255	---	---	2.30	3.15		
15		9.1 29	245	---	---	2.00	(3.10)		
16		8.0 23	255	---	---		2.4	(3.10)	
17		5.8 28	270				2.4	----	
18		5.0 29	295				2.9	----	
19		5.0 28	295				3.0	----	
20		4.4 26	305				4.0	----	
21		4.0 25	295				3.7		
22		4.0 23	260				5.0		
23		4.2 23	290				5.4		

Time: 90.0°W.

Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 15

Winnipeg, Canada (49.9° N, 97.4° W)									
December 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.3 27	<300					2.85	
01		3.4 26	300				2.0	(2.95)	
02		3.2 24	300				2.2	(2.80)	
03		3.3 22	300		---	---	2.0	(2.85)	
04		3.4 21	305		---	---		(2.80)	
05		3.4 21	<310					(2.85)	
06		3.3 21	300					(2.80)	
07		3.2 24	<300					(2.85)	
08		4.0 24	275		---	---		(3.00)	
09		5.6 26	230		---	2.0	3.15		
10		7.8 26	240		115	2.5	3.20		
11	---	9.0 26	240		---	2.7	3.25		
12	---	9.8 28	240		110	2.7	3.15		
13	---	9.9 28	235	---	---	2.7	3.15		
14		10.3 27	245		115	2.6	3.15		
15		10.4 28	235		---	2.3	3.10		
16		9.9 29	230		---	2.0	3.20		
17		9.0 31	225				3.20		
18		7.6 28	230				3.15		
19		5.8 30	235				3.10		
20		4.5 29	250				3.15		
21		3.9 25	270				3.00		
22		3.2 26	290				(2.90)		
23		3.2 26	<295				3.00		

Time: 90.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 17

Graz, Austria (47.1° N, 15.5° E)									
December 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	<350	>3.5	20					(3.0)	
01	(350)	>3.3	23					(2.8)	
02	(345)	(3.3)	24					(2.8)	
03	(335)	3.4	21				2.9		
04	(320)	>3.2	20					(3.0)	
05	<290	>3.2	24					(3.1)	
06	<300	>3.2	20					(3.2)	
07	255	>3.5	24					(3.1)	
08	210	(6.0)	27					(3.4)	
09	220	8.7	26					(3.5)	
10	220	>9.0	25					(3.4)	
11	230	>9.0	23					(3.6)	
12	220	>9.0	26					(3.4)	
13	225	>9.0	27					(3.4)	
14	220	>9.0	28					(3.6)	
15	220	8.7	30					(3.5)	
16	210	8.3	30					3.3	
17	220	(6.0)	28					(3.3)	
18	240	>5.5	26					(3.2)	
19	(260)	(4.0)	25					3.1	
20	(270)	>3.2	23					(3.2)	
21	<320	>3.2	27					(2.9)	
22	<335	(3.3)	21					(2.7)	
23	<340	>3.2	22					(2.8)	

Time: 15.0°E.

Sweep: 2.8 Mc to 18.0 Mc in 50 seconds.

Table 14

Adak, Alaska (51.9° N, 176.6° W)									
December 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		2.8 26	305						2.70
01		2.8 27	<311						2.70
02		3.0 25	316						2.70
03		3.0 23	<325						2.70
04		2.9 25	310						2.70
05		2.7 25	<323						2.70
06		2.6 25	<301						2.70
07		3.2 22	260						2.82
08		5.55 30	229		---	---	105	----	2.2
09	---	7.7 30	223	---	(110)	2.35			3.40
10	---	8.5 29	223	---	(120)	2.60			3.30
11	---	9.35 28	220	---	120	2.65			3.30
12	---	9.7 29	219	---	118	2.72			3.25
13	---	9.8 29	225		118	2.60			3.40
14		8.8 29	219		<125	2.45			3.40
15		8.2 29	215		129	2.00			3.40
16		6.4 29	207		---	---			3.40
17		4.6 28	210						3.25
18		3.1 20	225						3.40
19		2.45 22	(233)						3.30
20		2.3 24	<268						3.10
21		2.45 24	<275						3.00
22		2.7 27	275						2.90
23		2.8 27	278						2.90

Time: 180.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

St. John's, Newfoundland (47.6° N, 52.7° W)									
December 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.2 18	310						
01		3.2 25	305						
02		3.0 29	300						
03		3.2 26	300						
04		3.0 26	300						
05		3.2 22	295						
06		3.0 21	280						
07		4.0 30	245						
08		6.9 31	220						
09		8.9 31	225		---	---			
10		10.1 31	230		---	---			
11		10.3 31	225		---	---			
12		10.3 31	230		---	---			
13		11.1 30	230						
14		10.9 30	225						
15		10.6 30	220						
16		9.2 30	220						
17		7.1 25	230						
18		6.0 22	235						
19		5.0 24	250						
20		4.2 19	270						
21		3.7 18	300						
22		3.4 18	300						
23		3.6 21	300						

Time: 60.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 18

Sottens, Switzerland (46.6° N, 6.7° E)									
December 1960									
Time	h°F2	foF2—Count	h'F1	foF1	h'E	foE	foEs	(M3000)F2	
00	300	3.6	28						2.8
01	320	3.6	28						2.8
02	310	3.6	20						2.7
03	300	3.6	28						2.7
04	290	3.4	27						2.8
05	270	3.2	22						3.0
06	270	3.1	27						2.9
07	260	3.0	24						3.0
08	240	4.4	26						3.2
09	220	7.2	30		---	---	120	2.0	3.5
10	230	9.0	30		---	---	120	2.5	3.5
11	230	9.3	30		---	---	110	2.7	3.5
12	230	9.2	29		---	---	110	2.8	3.4
13	230	9.1	30		---	---	110	2.9	3.4
14	230	9.0	29		---	---	110	2.8	3.4
15	230	8.8	28		---	---	120	2.4	3.5
16	230	8.3	29		---	---	130	2.1	3.4
17	220	7.2	27						3.4
18	230	6.3	27						3.3
19	230	4.9	27						3.2
20	250	4.2	25						3.2
21	250	3.8	26						3.0
22	280	3.6	25						2.9
23	300	3.6	26						2.8

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 19

Ottawa, Canada (45.4° N, 75.9° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.5 25 300					---
01		3.1 26 300					---
02		3.2 28 300					---
03		3.2 28 295					---
04		3.0 26 280					---
05		3.0 27 280					---
06		3.0 27 285					---
07		3.4 29 270					---
08		5.6 31 240			115	2.0	---
09		7.8 31 230			120	2.4	---
10	(260)	9.9 31 230			130	2.9	---
11	(250)	10.3 31 230			120	3.0	---
12	250	10.8 31 225			125	3.0	---
13	---	11.0 31 230			120	3.0	---
14	---	10.8 31 240			125	2.8	---
15		11.0 31 230			120	2.4	(3,3)
16		9.7 31 225			115	2.0	(3,2)
17		9.3 31 220					(3,2)
18		7.6 30 225					3.2
19		6.0 29 230					3.2
20		5.0 30 250					3.2
21		4.5 27 255					(3,0)
22		3.6 28 290					(2,9)
23		3.3 27 300					(2,9)

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 20

Wakkanai, Japan (45.4° N, 141.7° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.2 26 335					2.80
01		3.2 26 335					2.75
02		3.2 25 320					2.75
03		3.2 25 320					2.75
04		3.3 25 300					2.75
05		3.1 25 300					2.65
06		3.3 24 280					3.00
07		5.5 26 250					3.20
08		8.8 26 230					3.35
09		10.7 29 230				2.70	3.35
10		11.7 29 230				2.95	3.30
11		11.3 29 230				2.95	3.35
12		10.2 29 230				3.00	3.30
13		9.6 28 235				2.90	3.30
14		9.1 29 230				2.60	3.25
15		8.5 29 225					2.7
16		7.3 29 225					3.20
17		5.7 29 235					2.4
18		4.4 29 250					3.25
19		3.5 28 260					2.4
20		3.3 27 300					3.05
21		3.3 27 325					2.3
22		3.5 26 330					2.70
23		3.4 26 330					2.80

Time: 135.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 1 minute.

Table 21

Genoa (Monte Capellino), Italy (44.6° N, 9.0° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.7 25 270					2.92
01		3.9 25 260					2.74
02		3.8 24 275					2.84
03		3.7 25 275					2.84
04		3.6 25 265					2.92
05		3.3 23 240					3.03
06		3.1 25 240					3.29
07		3.4 19 230					2.82
08		6.6 28 225				1.7	3.20
09		8.7 29 220				2.2	3.37
10		10.6 30 220				2.6	3.35
11		11.1 30 220				2.9	3.23
12		10.4 30 220				3.0	3.21
13		10.2 30 220				3.0	3.35
14		10.4 30 225				2.8	3.25
15		9.8 30 225				2.4	3.33
16		10.0 31 220				2.0	2.6
17		8.2 31 220					2.4
18		6.6 31 220					2.5
19		5.2 31 230					3.1
20		4.3 31 230					2.0
21		4.2 30 235					1.9
22		(3,8) 27 260					2.97
23		3.8 26 265					2.95

Time: 15.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 5 minutes, automatic operation.

Table 22

Rome, Italy (41.8° N, 12.5° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.6 30 280					3.1
01		3.6 30 270					2.80
02		3.8 30 280					2.80
03		3.8 30 290					2.80
04		3.7 29 260					3.00
05		3.6 26 250					3.15
06		(3,5) 27 240					3.30
07		(3,9) 27 220					3.00
08		(6,7) 17 200			150	2.0	3.35
09		9.2 28 210			110	2.5	3.45
10		(10,6) 22 210			110	2.9	(3,40)
11		(10,8) 22 210			110	3.0	(3,45)
12		9.4 24 210			110	3.1	3.35
13		(9,8) 22 210			110	3.0	3.35
14		(10,4) 27 210			110	2.9	(3,30)
15		(8,4) 21 210			110	2.6	(3,40)
16		(8,3) 21 210			130	2.0	(3,40)
17		(7,4) 20 200					3.1
18		(5,6) 21 200					3.1
19		5.0 24 210					3.1
20		4.0 28 240					3.0
21		3.9 26 250					3.1
22		3.8 28 260					2.80
23		3.6 28 270					2.80

Time: 15.0°E.

Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 23

Boulder, Colorado (40.0° N, 105.3° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.0 15					3.00
01		3.25 18					2.95
02		2.9 18					2.88
03		3.4 15					3.02
04		3.1 16					3.00
05		3.0 17					2.90
06		3.0 16					2.80
07		(3,9) 15					3.10
08		6.7 17					3.45
09		8.8 17					3.40
10		10.1 17					3.30
11		11.5 17					3.25
12		11.4 16					3.20
13		11.15 16					3.20
14		10.8 16					3.25
15		10.05 16					3.25
16		10.2 17					3.25
17		8.8 17					3.30
18		6.45 16					3.25
19		5.35 18					3.40
20		3.6 17					2.0
21		2.9 15					3.0
22		2.9 13					3.05
23		3.0 18					3.00

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

Akita, Japan (39.7° N, 140.1° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.4 26 300					2.2
01		3.5 27 300					(1,9)
02		3.5 29 300					2.65
03		3.3 28 310					2.60
04		3.5 28 310					2.0
05		3.5 29 305					2.75
06		3.6 29 280					1.8
07		6.0 29 245				----	(2,5)
08		9.1 30 240				2.50	3.30
09	---	10.8 30 245				2.85	3.30
10	---	12.2 31 245				3.10	3.35
11	---	11.0 30 240				3.20	3.35
12	---	10.0 30 240				3.20	3.30
13	---	9.6 31 245				3.10	3.25
14	---	9.3 31 245				2.85	3.35
15		8.2 31 240				2.50	3.35
16		7.6 31 235					2.6
17		6.3 31 220					(2,4)
18		5.2 30 240					(2,3)
19		4.0 29 240					(2,8)
20		3.4 24 255					(2,5)
21		3.4 24 275					(2,6)
22		3.4 25 300					(2,3)
23		3.5 26 300					(2,2)

Time: 135.0°E.

Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 25

Tokyo, Japan (35.7° N, 139.5° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.5	19	325			2.70
01		3.5	21	330			2.75
02		3.4	22	300			2.75
03		3.3	23	310			2.70
04		3.2	25	305			2.60
05		3.3	24	<340			2.70
06		3.6	24	295			2.80
07		(7.1)	25	240		----	(3.20)
08	---	9.9	29	240		2.55	3.1
09	---	11.6	28	240		2.95	3.2
10	---	13.0	28	230		3.20	3.4
11	---	11.5	29	<230		3.30	2.9
12	---	10.8	28	(230)		3.35	3.15
13	---	10.4	28	240		(3.15)	3.2
14		10.0	28	240		2.90	3.3
15		8.9	29	235		2.60	2.9
16		8.0	29	225		----	3.30
17		6.9	27	230			3.20
18		6.1	23	240			3.15
19		4.8	21	230		2.6	3.20
20		4.0	22	250		2.4	3.00
21		3.5	19	310			2.75
22		3.5	18	310			2.65
23		3.4	20	340			2.70

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 27

Yamagawa, Japan (31.2° N, 130.6° E)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.8	25	300			2.3
01		3.5	25	310			2.2
02		3.4	25	300			2.85
03		3.2	26	340			2.70
04		3.2	26	310			2.65
05		3.2	26	330			2.60
06		3.2	26	320			2.80
07		5.2	27	260			3.10
08		8.7	27	240		2.30	2.7
09		11.2	27	240		2.85	3.1
10		12.8	28	230		3.20	3.35
11		12.0	27	230		3.30	3.30
12		11.6	28	230		3.40	3.15
13		11.6	26	240		3.40	3.10
14		11.6	25	235		3.20	3.10
15		10.8	26	240		3.00	3.0
16		9.3	27	240		2.50	3.1
17		8.9	27	230			3.20
18		7.6	26	225		2.8	3.25
19		7.1	24	240		3.0	3.20
20		6.4	26	230		2.6	3.15
21		5.6	26	250		2.5	3.20
22		4.3	27	275		2.3	3.00
23		4.4	26	290			2.05

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 29

Talara, Peru (4.6° S, 81.3° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		10.0	16	<240			3.5
01		7.9	16	245			2.7
02		6.2	15	260			3.15
03		5.6	13	270			3.1
04		4.7	12	250			3.9
05		4.95	20	235			3.2
06		5.6	25	265			3.5
07	---	9.0	27	245		119	2.40
08	---	11.45	30	230		<116	3.05
09	---	12.2	31	220		<113	3.45
10	---	12.7	30	<215		111	3.70
11	---	13.3	31	(205)		111	3.90
12	---	>13.0	31	(210)		111	3.95
13	---	12.6	31	210		111	3.90
14	(345)	13.2	31	205		111	3.80
15	---	13.2	31	(210)		111	3.60
16	---	13.0	31	<240		111	3.25
17		12.7	31	<245		115	2.85
18		12.9	31	260		(123)	2.25
19		12.8	31	260			4.2
20		12.75	30	265			3.2
21		>11.0	24	260			2.6
22		>11.05	18	255			2.8
23		11.45	14	250			2.6

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 26

White Sands, New Mexico (32.3° N, 106.5° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.55	28	(290)			2.0
01		3.6	27	302			2.80
02		3.5	28	<300			2.82
03		3.4	27	284			2.75
04		3.2	24	<280			2.78
05		3.2	28	<325			2.70
06		3.3	28	312			2.72
07		5.4	29	265		<156	1.80
08		8.2	31	245		125	2.40
09		9.5	31	240		118	2.80
10	(280)	10.6	31	235		112	3.10
11	(284)	11.4	30	235		117	3.35
12	(270)	12.1	30	240		(120)	3.35
13	(275)	11.6	31	240		122	3.30
14	---	11.2	31	234		119	3.20
15		10.7	31	245		120	2.90
16		10.4	31	244		<124	2.50
17		9.1	31	235		---	---
18		6.5	31	225			3.1
19		5.2	29	(250)			3.7
20		4.5	25	250			3.5
21		3.1	25	<272			3.4
22		3.3	28	<300			3.2
23		3.5	27	<310			3.2

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 28

El Cerillo, Mexico (19.3° N, 99.5° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		3.9	25	270			2.8
01		4.0	25	260			2.0
02		3.7	25	240			2.4
03		3.2	26	240			1.7
04		2.6	25	300			2.80
05		2.6	26	330			2.70
06		2.9	26	310			1.9
07		5.0	26	270		---	---
08		8.8	26	235		119	2.35
09		11.5	26	230		103	2.90
10		12.4	26	220		103	3.30
11		13.0	26	210		105	3.50
12		11.8	26	200		103	3.60
13		12.6	26	210		101	3.70
14		13.4	25	230		103	3.50
15		12.2	26	230		103	3.40
16		11.4	27	230		103	3.10
17		10.2	26	220		104	2.40
18		9.2	26	230			5.6
19		7.2	25	230			4.5
20		5.4	23	230			4.1
21		5.1	25	245			3.6
22		4.3	25	250			3.3
23		4.0	24	260			3.3

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 30

Huancayo, Peru (12.0° S, 75.3° W)							
December 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		(7.55)	8	305			(2.90)
01		(6.0)	8	320			(3.00)
02		(5.4)	7	295			(2.90)
03		(6.35)	6	280			(3.10)
04		(5.65)	6	260			(3.25)
05		4.5	11	250			3.10
06		7.5	25	260		123	2.00
07		9.6	30	<240		111	2.80
08		11.3	30	225		<111	(3.30)
09		11.95	30	215		---	(3.70)
10	---	11.9	30	205		---	(3.95)
11	---	11.85	30	205		5.1	---
12	---	11.3	31	200		5.1	110
13	---	11.4	31	200		---	111
14	---	12.0	31	205		---	112
15		12.2	31	(210)			114
16		12.2	30	220			115
17		11.9	30	250			117
18		11.5	29	270		<139	1.95
19		11.0	29	295			
20		10.4	24	325			
21		9.95	16	310			
22		9.2	11	290			
23		>9.0	9	270			

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 31

Thule, Greenland (76.0° N, 68.0° W) November 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(3.7)	16	265				(2.85)
01	(3.3)	15	288				(2.60)
02	(3.75)	8	280				(2.70)
03	(4.0)	9	272				(2.75)
04	(3.65)	6	272				----
05	(4.0)	11	262				(2.60)
06	(3.65)	12	260				(2.70)
07	(3.7)	11	249				(2.90)
08	(4.1)	12	250				(2.70)
09	(4.4)	16	252		---	---	(2.92)
10	(4.55)	14	250		---	---	2.5 (2.88)
11	(5.35)	14	250		---	---	2.5 (3.00)
12	(5.45)	12	251		---	---	3.3 (3.00)
13	(5.4)	7	240		---	---	2.2 ----
14	(5.4)	15	244				2.3 (2.90)
15	(5.2)	11	247				2.5 (2.95)
16	(5.4)	14	245				2.2 (2.90)
17	(5.6)	7	240				2.8 ----
18	(4.8)	13	258				2.6 (2.90)
19	(4.55)	8	258				1.8 (2.92)
20	(4.2)	13	(274)				2.0 (2.75)
21	(4.4)	10	<264				1.7 (2.95)
22	(3.8)	11	<269				(2.85)
23	(3.6)	13	270				(2.82)

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 32

Fairbanks, Alaska (64.9° N, 147.8° W) November 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(3.6)	5					5.0 ----
01	(3.8)	5					5.9 ----
02	(3.4)	3					6.0 ----
03	(4.1)	4					5.4 ----
04	(3.9)	5					5.4 ----
05	(4.35)	12					5.0 (2.62)
06	(4.35)	14					3.1 (2.78)
07	(3.85)	16					(2.82)
08	4.45	18					3.05
09	5.55	18					3.10
10	6.1	19					3.15
11	6.8	21					3.10
12	7.4	23					3.10
13	8.0	23					3.10
14	8.8	24					3.15
15	8.2	23					3.15
16	7.05	22					3.15
17	5.75	20					3.20
18	5.2	15					3.20
19	(3.7)	13					(3.15)
20	(3.15)	8					(3.06)
21	(4.4)	9					4.0 (3.10)
22	(3.65)	8					4.2 ----
23	(4.3)	3					5.0 ----

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

Anchorage, Alaska (61.2° N, 149.9° W) November 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(3.1)	8					(2.55)
01	(3.0)	6					2.3 (2.50)
02	(3.3)	8					1.9 (2.60)
03	(2.9)	11					(2.60)
04	(4.15)	6					(2.55)
05	(4.3)	8					(2.60)
06	(4.1)	9					(2.60)
07	(3.3)	13					(2.65)
08	4.7	16			---	---	3.02
09	5.7	19			---	---	3.10
10	7.1	19			---	---	3.08
11	7.7	22			---	---	3.08
12	8.4	23			---	---	3.10
13	9.1	23			---	---	3.10
14	9.5	20			---	---	3.12
15	9.2	21					3.20
16	7.9	23					3.15
17	6.5	24					3.12
18	5.1	21					3.25
19	(4.0)	15					3.18
20	2.8	11					2.95
21	(2.5)	9					(2.95)
22	(2.4)	9					(2.75)
23	(2.85)	6					(2.70)

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 34

Nurmijarvi, Finland (60.5° N, 24.6° E) January 1960							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(2.6)	6					(2.60)
01	(2.4)	3					----
02	(2.6)	4					----
03	(2.3)	3					----
04	(2.4)	2					----
05	(2.9)	5					(2.80)
06	(2.7)	3					----
07	(2.5)	2					----
08	(3.0)	4					----
09	6.4	10					3.10
10	8.5	23					3.20
11	10.3	27					3.20
12	11.6	28					3.20
13	12.0	25					3.15
14	11.9	26					3.20
15	11.5	26					3.20
16	10.4	26					3.15
17	8.4	22					3.15
18	6.2	18					3.10
19	5.2	19					3.05
20	3.7	15					3.00
21	3.2	15					2.90
22	(3.3)	9					(2.80)
23	(3.0)	8					(2.70)

Time: 30.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 35

Lindau/Harz, Germany (51.6° N, 10.1° E) December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	3.30	29	293				2.50
01	3.28	30	310				2.56
02	3.38	29	314				2.55
03	3.12	25	310				2.58
04	2.87	27	283				2.63
05	2.93	30	267				2.79
06	2.73	29	256				2.94
07	2.70	28	254			E	2.77
08	4.92	29	234		---	E	2.99
09	8.30	29	223		---	2.15	3.1
10	9.98	30	222		---	2.48	3.7
11	11.10	27	226		---	2.70	3.9
12	11.50	30	223		---	2.76	3.8
13	11.00	31	220		---	2.76	4.0
14	11.60	27	230		---	2.60	3.8
15	10.70	31	220		---	2.26	3.4
16	9.89	28	218		---	1.81	2.8
17	8.60	29	216		---	E	3.12
18	6.20	31	220				2.7
19	4.60	31	231				3.04
20	4.12	30	243				2.95
21	3.50	30	262				2.74
22	3.43	31	288				2.66
23	3.34	28	298				2.62

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 36

Budapest, Hungary (47.4° N, 19.2° E) December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	3.5	31	310				
01	3.5	31	310				
02	3.6	31	300				
03	>3.3	31	270				
04	3.2	30	260				
05	3.1	31	250				
06	4.5	29	240				
07	7.6	30	220		---	150	2.0
08	10.3	31	225		---	120	2.5
09	11.3	29	225		---	120	2.8
10	11.4	31	225		---	120	3.0
11	11.0	31	225		---	120	3.1
12	11.3	31	230		---	120	2.9
13	11.4	31	230		---	120	2.6
14	10.2	30	220		---	130	2.2
15	>9.0	31	220				
16	>7.0	30	220				2.0
17	5.7	27	230				
18	>4.4	27	235				
19	3.8	27	260				
20	3.4	29	300				
21	3.4	30	300				
22	3.4	30	310				
23	3.5	30	315				

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 37

Oakar, French W. Africa (14.8° N, 17.4° W)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(16.0)	1	240		---	E	3.1
01	>14.0	9	230		---	E	3.0
02	>16.0	6	215		---	E	3.0
03	>9.0	11	215		---	E	3.0
04	6.8	10	215		---	E	3.0 (3.00)
05	4.8	16	240		---	E	3.0 2.90
06	3.7	19	245		---	E	3.0 3.00
07	3.4	18	270		---	E	3.0 2.75
08	8.4	21	250	120	2.20	3.1	3.10
09	(12.2)	17	240	110	2.85	4.9	(3.05)
10	---	15.0	21	230	105	3.25	4.0 (3.20)
11	---	15.5	27	215	105	3.60	4.9 3.05
12	---	15.0	19	220	---	105	3.80 4.8 (2.80)
13	---	14.5	21	210	105	3.80	4.5 2.60
14	---	14.3	15	215	105	3.80	4.6 (2.50)
15	---	>14.3	19	225	105	3.70	4.5 (2.35)
16	---	>14.2	18	230	110	3.50	4.6 (2.35)
17	(13.5)	8	240	110	3.00	4.6	---
18	(14.5)	5	255	120	2.35	4.7	---
19	>14.0	4	260	---	---	4.5	---
20	>13.5	2	320	---	---	E	3.0
21	---	0	280	---	---	---	3.1
22	D	1	250	---	---	E	3.1
23	>13.0	3	245	---	---	E	3.1

Time: 0.0°.

Sweep: 1.2 Mc to 17.0 Mc.

Table 39

Ibadan, Nigeria (7.4° N, 3.9° E)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	9.4	29	250				2.80
01	9.2	29	250				2.05
02	8.8	29	250				2.90
03	8.8	27	250				3.10
04	7.7	28	225				3.20
05	6.0	26	225			---	3.40
06	>6.8	23	265			1.80	3.00
07	9.5	26	250			2.75	2.95
08	11.0	27	240			3.30	8.2 2.65
09	11.0	28	225			3.70	6.4 2.50
10	10.9	27	220			(3.95)	9.1 2.40
11	11.0	23	215			(4.10)	9.1 2.30
12	11.2	27	215			(4.10)	9.2 2.35
13	11.5	29	220			4.00	9.1 2.30
14	11.8	30	225			3.85	8.9 2.30
15	11.7	31	235			3.50	6.6 2.25
16	11.7	31	250			3.00	6.4 <2.25
17	>10.9	30	270			2.20	4.4 2.25
18	>10.2	29	325			(1.20)	2.20
19	9.5	29	375				2.15
20	9.1	28	355				2.25
21	9.0	30	320				2.45
22	9.2	30	275				2.60
23	9.4	29	250				2.75

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 41

Townsville, Australia (19.3° S, 146.7° E)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>6.0	1	280				3.0
01	---	0	290				3.5
02	>6.5	3	285				3.6
03	>6.5	2	280				2.3
04	>6.0	7	<300				
05	(6.1)	11	300				---
06	>6.3	11	250			2.20	---
07	---	>7.0	12	250	---	2.90	3.6 (2.70)
08	---	7.2	10	240	---	3.40	4.2 (2.55)
09	(440)	7.6	13	(240)	5.1	3.65	4.3 (2.55)
10	(420)	>10.7	14	(230)	<5.3	3.90	5.6 2.60
11	(450)	>11.0	15	---	6.0	(4.00)	5.8 (2.70)
12	385	(12.6)	18	---	5.8	>4.00	5.6 2.60
13	360	13.3	18	---	5.7	4.00	5.3 2.65
14	340	(12.4)	18	(240)	5.4	3.95	4.8 2.70
15	345	11.7	15	(230)	---	3.80	5.4 2.70
16	(355)	>11.0	11	(240)	---	3.50	4.2
17	(6.5)	1	250			3.05	4.3
18	>6.6	2	<270			2.30	4.0
19	>6.5	1	300				3.4
20	---	0	330				3.5
21	>7.5	1	330				2.9
22	---	0	310				2.9
23	---	0	300				3.1

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 38

Djibouti, French Somaliland (11.6° N, 43.2° E)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(9.1)	2	260				3.7
01	(9.0)	3	250		---	---	3.6
02	(8.2)	6	250		---	---	3.3
03	7.1	12	240		---	---	3.2 (2.90)
04	6.2	19	240		---	E	2.2 3.05
05	5.6	24	235		---	E	2.1 3.15
06	4.4	27	250		---	E	2.1 2.85
07	8.3	13	270		130	2.15	3.7 3.00
08	(11.3)	2	255		125	2.90	4.0
09	(11.4)	3	240		---	3.40	6.4
10	(11.5)	6	235		---	3.60	7.1 (2.45)
11	(11.5)	9	235		---	3.75	8.5 (2.40)
12	---	(11.5)	9	235	---	3.80	6.8 (2.35)
13	(11.7)	5	235		---	3.80	6.8 (2.30)
14	(12.6)	8	240		---	3.70	6.5 (2.30)
15	(11.6)	2	250		---	3.55	6.6
16	(11.6)	4	260		---	3.20	6.5
17	(11.4)	1	280		130	2.35	5.9
18	(8.8)	1	315		---	E	4.2
19	(8.8)	4	375		---	E	2.6
20	(9.0)	3	(360)		---	---	2.0
21	(8.6)	5	(290)		---	---	2.2
22	(8.3)	3	290		---	---	3.7
23	(9.0)	4	285		---	---	3.8

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc.

Table 40

Tananarive, Madagascar (18.8° S, 47.5° E)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	8.7	27	255		---	---	3.1 2.90
01	7.4	28	250		---	---	3.0 2.65
02	7.0	28	285		---	E	3.0 2.40
03	6.4	28	295		---	E	2.7 2.60
04	6.0	28	<295		---	E	2.9 2.60
05	5.9	27	300		---	E	3.0 2.65
06	7.1	27	260		120	2.40	3.0 2.80
07	---	8.6	28	250	---	115	(3.10) 3.1 2.65
08	(440)	9.4	25	240	(5.0)	110	3.50 3.9 2.60
09	390	10.5	25	235	5.6	110	3.65 3.8 2.55
10	390	11.2	24	230	---	110	3.95 2.55
11	380	11.7	24	230	5.8	110	3.90 4.3 2.50
12	380	11.8	24	(240)	---	110	(4.05) 4.2 2.60
13	385	11.4	26	(250)	5.9	110	(4.00) 4.3 2.55
14	365	11.7	24	240	5.6	110	(3.90) 4.1 2.60
15	370	11.4	28	250	---	110	3.60 3.9 2.60
16	---	10.9	25	250	---	110	3.30 3.7 2.60
17	10.7	27	250		120	2.80	3.3 2.60
18	10.3	27	285		---	2.15	2.8 2.65
19	10.6	28	290		---	---	2.9 2.65
20	10.6	27	290		---	---	3.0 2.65
21	10.1	24	285		---	---	2.8 2.65
22	9.7	27	290		---	E	3.0 2.65
23	9.6	28	280		---	---	2.9 2.70

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc.

Table 42

Sao Paulo, Brazil (23.5° S, 46.5° W)							
December 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>14.0	15	285				2.90
01	12.6	20	265				2.90
02	10.5	22	250				2.80
03	8.3	21	260				2.70
04	7.8	23	260				2.80
05	7.2	23	280				2.60
06	7.6	23	250			---	2.80
07	8.7	26	235			---	3.2 2.60
08	9.6	26	230			---	2.40
09	---	10.4	26	225	---	---	3.7 2.35
10	---	10.8	25	---	---	---	2.30
11	(420)	11.8	25	---	---	---	2.40
12	(400)	12.5	23	(220)	---	---	2.50
13	(380)	13.0	22	(230)	5.8	---	2.50
14	390	13.4	24	(225)	---	---	2.60
15	365	13.6	26	(240)	---	---	2.60
16	355	13.8	28	230	---	---	3.8 2.60
17	(325)	13.6	25	240	---	---	4.0 2.60
18	13.5	26	265		---	---	2.8 2.60
19	13.2	26	320		---	---	2.8 2.50
20	(13.6)	20	370		---	---	2.2 (2.40)
21	(13.8)	11	340		---	---	(2.55)
22	(14.0)	11	345		---	---	(2.60)
23	>14.0	13	315		---	---	(2.70)

Time: 45.0°W.

Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 43

Johannesburg, Union of S. Africa (26.1° S, 28.1° E)										December 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		6.0	30 (255)				<1.8	(2.80)			
01		6.1	31 (250)				1.5	2.70			
02		5.6	31 (280)				1.4	2.70			
03		5.3	31 ---				<1.4	2.65			
04		5.0	31 (270)				<1.5	2.70			
05		5.1	31 285			<1.5		2.60			
06		6.8	31 250			2.4	2.6	2.95			
07	---	8.1	31 235	---		3.1	3.6	2.80			
08	365	9.0	31 225	5.1		3.6	3.8	2.65			
09	360	9.8	31 210	5.3		3.8	4.0	2.60			
10	365	10.2	31 210	5.5		4.0	4.2	2.55			
11	365	10.6	31 210	5.6		4.1	4.2	2.55			
12	370	10.9	31 210	5.6		4.2	4.5	2.50			
13	370	10.8	31 210	5.7		4.1	4.3	2.55			
14	365	10.4	31 210	5.7		4.0	4.1	2.55			
15	360	10.2	30 215	5.3		3.9	4.0	2.60			
16	345	>9.6	31 220	5.1		3.6	3.6	2.65			
17	310	9.3	31 230	---		3.2	3.3	2.65			
18	---	>9.0	31 250			2.5		(2.75)			
19	---	>9.0	31 260			<1.8	<2.0	(2.00)			
20	---	>8.4	31 250				<2.0	(2.80)			
21	---	>7.3	30 250				<1.8	(2.80)			
22	---	>7.1	28 270				1.7	(2.70)			
23	---	>6.9	30 (270)				<1.8	2.65			

Time: 30.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 45

Canberra, Australia (35.3° S, 149.0° E)										December 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		(7.0)	28 300				3.2	2.65			
01		(7.2)	20 <290				3.4	2.65			
02		>6.7	28 280				3.4	2.65			
03		>6.0	28 <295				2.4	2.60			
04		5.9	28 290					2.70			
05	---	6.0	28 275	---		1.90	2.1	2.70			
06	---	6.1	28 250	---		2.60	3.0	2.90			
07	400	7.0	24 240	5.0		3.10	3.9	2.80			
08	370	7.4	24 235	5.2		3.55	4.6	2.80			
09	390	0.0	24 240	5.8		3.70	4.9	2.70			
10	390	8.5	22 220	5.7		3.90	5.0	2.65			
11	360	>0.6	21 (220)	6.0		4.00	5.1	2.75			
12	400	>0.5	21 220	5.8		4.00	5.7	2.55			
13	360	>0.6	25 (250)	5.8		4.00	5.4	2.70			
14	360	>0.6	27 225	5.0		3.95	4.5	2.70			
15	360	8.6	27 230	5.7		3.75	4.3	2.70			
16	350	8.6	30 235	5.6		3.55	4.0	2.70			
17	350	8.5	30 245	5.0		3.25	3.9	2.75			
18	---	8.2	28 255	---		2.65	3.8	2.75			
19	---	8.0	30 255	---		1.85	3.8	2.75			
20	---	>7.5	28 285	---			3.7	(2.65)			
21	---	>7.5	28 300	---			2.8	(2.65)			
22	---	>7.7	27 300	---			3.2	---			
23	---	>7.7	28 300	---			3.2	(2.60)			

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 47

Mawson (67.6° S, 62.9° E)										December 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		(6.5)	9 200					(3.00)			
01		6.8	13 200				2.60				
02		7.2	10 200				2.40				
03		(7.1)	8 (200)				(2.25)				
04		(7.5)	6 (175)				(2.50)				
05		(7.5)	4 (400)				---				
06		(7.5)	7 (380)				(2.40)				
07		(8.0)	7 (220)				(2.35)				
08		(7.5)	8 (200)				(2.30)				
09		7.8	13 200				2.35				
10		8.0	14 410				2.45				
11		7.9	10 200				2.50				
12		(7.2)	8 (200)				(2.60)				
13		7.0	10 200				2.70				
14		7.0	14 200				2.95				
15		7.0	15 210				3.00				
16		7.0	16 235				3.00				
17		6.0	13 240				3.00				
18		(6.8)	9 (250)				(2.90)				
19		6.0	12 250				3.00				
20		(6.8)	8 (245)				(3.00)				
21		6.0	11 250				3.00				
22		6.0	12 220				3.00				
23		(6.0)	7 (220)				(3.00)				

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 15 seconds.

Table 44

Capetown, Union of S. Africa (34.1° S, 18.3° E)										December 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		5.5	26 ---					2.8		2.60	
01		5.2	26 ---					2.8		2.60	
02		5.0	26 ---					2.8		2.60	
03		5.0	26 ---					2.7		2.55	
04		4.6	25 ---					2.8		2.60	
05		4.4	25 (325)					2.7		2.60	
06		5.7	24 265					2.1		2.80	
07	---	6.8	24 250	---				2.7		2.90	
08	440	7.8	24 240	4.6		3.1		3.4		2.55	
09	450	8.3	24 235	5.0		3.5		3.7		2.45	
10	420	9.0	24 (225)	5.2		---		4.0		2.50	
11	395	9.3	24 ---	5.6		---		4.0		2.50	
12	395	9.5	25 ---	5.8		---		(4.6)		2.50	
13	395	9.9	25 ---	5.6		---		(4.6)		2.50	
14	---	9.9	25 ---	5.5		---		(4.4)		2.55	
15	375	9.6	24 ---	5.7		---		4.1		2.55	
16	365	9.3	25 235	5.2		3.6		3.9		2.55	
17	350	9.0	26 230	5.0		3.4		3.6		2.60	
18	330	8.6	26 245	---		3.0		3.2		2.70	
19	---	8.4	26 250	---		2.4		2.6		2.00	
20	---	7.8	26 250	---		<1.8		2.3		2.05	
21	---	7.2	26 245	---				2.0		2.80	
22	---	6.4	26 ---	---				2.2		2.75	
23	---	5.9	26 ---	---				2.3		2.65	

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 46

Port Lockroy (64.0° S, 63.5° W)										December 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		10.2	27 320			1.50	1.5	2.50			
01		10.6	25 320			1.50	1.5	2.45			
02		10.4	26 320	---		1.70	1.8	2.40			
03		10.4	20 300	---		2.00	2.2	2.40			
04		10.4	26 280	3.6		2.30	2.7	2.40			
05		10.4	28 260	4.0		2.55	3.2	2.45			
06		10.3	27 260	4.3		2.90	3.8	2.45			
07		9.0	27 245	4.5		3.20	3.6	2.50			
08		9.0	26 240	4.7		3.30	4.1	2.50			
09		8.0	25 240	5.0		3.40	4.6	2.55			
10		7.8	27 240	5.0		3.55	5.4	2.60			
11		7.5	27 240	5.0		3.50	5.9	2.70			
12		7.0	26 240	5.1		3.65	5.4	2.50			
13		7.0	27 230	5.1		3.60	5.5	2.70			
14		6.9	24 250	5.0		3.55	5.0	2.75			
15		7.0	27 245	---		3.50	4.8	2.70			
16		6.8	27 245	---		3.35	4.6	2.75			
17		7.2	28 250	---		3.20	4.2	2.70			
18		7.6	28 255	---		3.00	4.0	2.80			
19		8.0	29 255	---		2.70	3.2	2.70			
20		8.2	25 270	---		2.40	2.9	2.70			
21		8.6	24 280	---		2.10	2.3	2.55			
22		9.2	24 300	---		1.80		2.45			
23		9.6	21 315	---		1.55	1.5	2.45			

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 48

Lwiro, Belgian Congo (2.3° S, 28.8° E)							November 1959	
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.4	24	215				2.80
01		11.0	21	250				2.81
02		10.6	22	255			(1.5)	2.92
03		10.4	25	240			(1.6)	3.01
04		8.4	22	220			(1.6)	3.10
05		6.5	21	220			(1.6)	3.14
06		7.9	22	245	(127)	1.90	(2.2)	3.20
07	(245)	9.8	21	235	119	2.80	3.0	3.19
08	(250)	10.5	19	230	111	3.35	3.6	2.92
09	---	11.2	24	220	111	3.75		2.70
10	---	11.6	25	215	109	3.95		2.58
11	---	12.3	25	205	---	109	4.10	2.51
12	---	13.0	26	200	---	107	4.10	2.48
13	420	13.6	26	300	---	109	4.05	2.47
14	425	14.1	25	210	---	109	3.90	2.44
15	390	>14.2	26	220		111	3.60	2.48
16	(380)	14.5	26	230		111	3.10	2.58
17	---	14.3	26	250		113	2.50	(2.8)
18		>14.0	26	280	---	---		(2.4)
19		>14.0	26	350			(1.8)	(2.39)
20		>14.0	24	310			(1.6)	(2.54)
21		(15.3)	21	260			(1.6)	2.90
22		15.6	24	225				3.13
23		13.4	20	205				3.02

Table 49

Lindau/Harz, Germany (51.6° N, 10.1° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	4.15	29	313				2.52
01	3.96	28	316				2.48
02	4.07	27	318				2.45
03	3.81	24	311				2.53
04	3.54	24	209				2.62
05	3.52	25	269				2.76
06	3.33	25	263				2.67
07	3.24	26	255				2.73
08	6.23	31	232		---	---	2.78
09	10.20	30	233		---	2.24	3.02
10	12.60	31	227		---	2.61	3.09
11	13.27	31	229		---	2.88	3.02
12	13.63	31	230		---	2.97	2.94
13	13.50	31	232		---	2.93	2.94
14	13.35	31	234		---	2.72	2.92
15	13.05	31	230		---	2.44	2.94
16	12.16	30	230		---	1.80	2.94
17	10.75	31	220		---	---	2.96
18	0.35	31	222		---	---	2.92
19	0.50	31	224				2.95
20	5.55	31	235				2.84
21	4.56	30	254				2.70
22	4.27	30	204				2.59
23	4.10	30	296				2.56

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 51

Rabat, Morocco (30.9° N, 6.8° W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	(6.3)	13	<260				(2.70)
01	6.0	14	<260				(2.85)
02	(5.9)	19	<260				2.85
03	5.7	21	<260				2.95
04	4.6	21	<260				2.95
05	3.9	25	<260				2.75
06	4.0	26	<295				2.70
07	5.8	24	(265)				3.00
08	>10.0	24	235		130	2.20	3.30
09	12.0	24	235		120	2.00	3.20
10	---	12.9	25	235	120	3.25	3.05
11	(260)	13.3	25	235	120	3.55	2.90
12	---	13.3	24	235	120	3.65	2.80
13	(300)	12.4	25	245	---	120	3.60
14	330	12.2	25	245	---	120	3.50
15	---	12.3	25	245	---	120	3.20
16	---	12.2	26	250	125	2.75	2.75
17	11.5	28	250		140	2.00	2.85
18	10.4	29	<230				2.2
19	9.0	29	<245				1.9
20	---	8.6	27	<250			1.8
21	8.0	26	<250				2.70
22	7.0	27	<255				2.65
23	6.8	22	<275				2.75

Time: 0.0°.

Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 53

Ojibouti, French Somaliland (11.6° N, 43.2° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	>11.3	4	285				2.1
01	(11.4)	2	260				2.0
02	(8.8)	8	250				2.0
03	>8.3	11	245				1.9
04	8.2	16	225		---	---	1.8
05	6.2	17	215		---	---	3.15
06	5.6	22	235		---	E	1.9
07	8.8	12	260		120	2.40	3.2
08	>11.3	6	250		130	3.15	3.5
09	>13.3	8	240		<110	(3.60)	5.5
10	(13.6)	9	230		---	(3.95)	6.7
11	---	>12.5	15	230	---	(4.20)	9.5
12	---	12.4	19	<230	105	(4.20)	8.8
13	---	>12.3	17	220	---	110	(4.15)
14	---	>12.5	16	220	---	105	4.05
15	---	>12.5	11	245	---	110	(3.75)
16	---	>12.2	4	250	---	110	3.40
17	>11.3	3	260		115	2.65	4.6
18	>11.0	4	310		---	E	3.5
19	>9.5	4	400		---	E	---
20	>8.7	2	---				---
21	(8.5)	1	(330)				---
22	(8.4)	1	(290)				2.0
23	(9.0)	1	(280)				2.2

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 50

Poitiers, France (46.6° N, 0.3° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	(4.7)	30	<310				2.45
01	(4.6)	30	(315)				2.35
02	(4.5)	30	(320)				2.3
03	(4.2)	30	(310)				2.0
04	(3.8)	29	<280				2.0
05	3.7	28	(270)				2.65
06	---	3.6	28	(265)	---	---	2.60
07	---	(5.2)	28	240	---	E	(2.60)
08	---	9.0	30	225	<160	1.90	2.6
09	---	>12.0	30	230	115	2.60	3.0
10	---	>13.5	30	225	115	3.00	3.4
11	---	>13.5	30	230	(115)	3.20	3.4
12	---	>13.4	30	225	(115)	3.25	(2.85)
13	---	(13.3)	30	250	(115)	3.20	3.2
14	---	(13.4)	30	230	115	2.95	3.2
15	---	(12.7)	31	230	120	2.50	2.8
16	---	(12.2)	30	230	---	1.80	2.4
17	>10.0	30	220		---	E	2.4
18	(8.9)	30	225				2.4
19	>7.0	29	235				2.3
20	(5.7)	29	235				(2.55)
21	(5.4)	30	<280				(2.50)
22	(5.2)	30	(290)				(2.50)
23	(5.0)	30	(290)				(2.50)

Time: 0.0°.

Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 52

Oakar, French W. Africa (14.8° N, 17.4° W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	>12.4	4	240		---	---	3.0
01	(12.7)	6	230		---	E	2.8
02	(13.0)	8	225		---	---	2.6
03	11.4	11	220		---	E	2.5
04	7.9	12	220		---	---	2.7
05	7.6	10	225		---	E	2.8
06	5.4	14	240		---	E	3.0
07	5.0	12	<245		---	E	2.9
08	10.2	22	250		115	2.30	3.0
09	14.2	22	235		105	3.05	3.6
10	---	15.4	16	225	100	(3.50)	4.0
11	---	15.2	14	220	100	(3.80)	4.2
12	---	15.0	15	(210)	100	3.95	4.4
13	(420)	15.0	15	(210)	100	3.95	5.0
14	---	(15.0)	15	205	100	4.00	4.2
15	---	14.6	15	220	105	3.90	4.1
16	---	14.6	16	225	105	3.70	4.0
17	---	14.5	13	240	110	3.20	3.9
18	---	(14.5)	8	260	115	2.50	4.2
19	>13.9	8	300		---	---	4.2
20	---	(14.2)	1	380	---	E	3.2
21	---	(14.9)	1	360	---	---	3.1
22	---	---	0	290	---	---	3.0
23	---	---	0	260	---	---	3.0

Time: 0.0°.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 54

Paramaribo, Surinam (5.8° N, 55.2° W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs (M3000)F2
00	13.4	25	280				2.3
01	15.9	20	250				1.8
02	14.3	21	250				1.6
03	15.4	22	230				3.00
04	12.0	28	215				2.95
05	10.4	24	215				2.95
06	7.5	23	215				3.00
07	6.6	28	240				1.8
08	5.1	24	245				1.6
09	5.7	27	250				2.0
10	9.3	29	250		105	2.1	2.3
11	---	13.0	28	250	100	3.0	3.05
12	---	15.0	27	240	100	3.6	(4.0)
13	(260)	14.3	26	250	110	4.0	2.90
14	330	14.0	26	250	---	115	4.2
15	360	14.3	25	250	---	100	<5.7
16	375	13.4	26	(250)	7.4	110	<5.3
17	400	13.3	25	250	7.2	110	<5.0
18	410	13.2	26	250	6.8	110	4.0
19	400	13.0	27	245	6.7	100	3.8
20	375	13.0	28	250	---	100	3.2
21	---	13.0	29	260	---	100	2.3
22	---	13.2	29	295	---	1.8	3.0
23	---	13.3	27	300	---	---	2.8

Time: 0.0°.

Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 55

Bangui, French Equatorial Africa (4.6° N, 18.6° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>11.2	3	290				
01	(11.0)	6	290		---	---	(2.55)
02	10.3	11	275		---	---	2.00
03	9.4	12	245		---	---	(2.80)
04	9.3	15	230		---	---	3.00
05	7.7	16	220		---	E	2.0
06	7.7	19	260		145	2.00	3.1
07	10.2	22	250		115	3.00	3.1
08	11.1	24	245		105	3.50	3.7
09	11.5	23	230		105	3.90	2.25
10	>11.5	21	225		105	4.10	2.10
11	12.0	23	220		105	4.20	2.10
12	12.2	23	215		105	(4.20)	2.15
13	>12.0	24	215		105	4.20	2.15
14	---	>12.0	23	225	---	105	4.00
15	---	12.4	23	240		110	3.70
16		13.0	21	255		115	3.25
17		12.6	13	285		125	2.40
18	(11.5)	11	350		---	E	2.4
19	(11.5)	9	440		---	---	---
20	>11.0	8	400		---	---	---
21	>12.0	2	350		---	---	---
22	(11.8)	3	295		---	---	2.4
23	(11.5)	4	290		---	---	(2.50)

Time: 15.0°E.

Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 57

Tahiti, Society Is. (17.7° S, 149.3° W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		10.7	30	270	---	---	3.1
01		9.6	28	300	---	E	3.0
02		>9.0	28	325	---	---	3.1
03		9.0	27	310	---	E	3.1
04		0.6	26	300	---	E	2.8
05	---	8.7	26	300	---	E	3.1
06		9.7	30	260	120	2.30	3.2
07		10.6	30	250	110	3.20	3.8
08		11.2	28	240	105	3.70	4.6
09		12.2	28	240	105	3.95	4.1
10		13.1	30	240	105	---	3.1
11	(460)	13.9	29	230	---	105	(4.50)
12	460	14.7	29	230	6.9	105	---
13	445	15.1	28	235	6.7	105	---
14	435	15.0	30	240	6.6	105	(4.25)
15	445	14.4	30	250	6.5	105	4.00
16	445	14.0	30	250	---	105	3.60
17	---	14.0	30	255	110	3.00	4.6
18		13.4	27	295	130	2.10	4.0
19		12.6	20	360	---	E	4.0
20		12.2	28	390	---	---	3.8
21		12.4	28	350	---	---	3.5
22		13.2	28	310	---	---	3.1
23		12.0	29	290	---	---	3.1

Time: 150.0°W.

Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 59

Tsumeb, South W. Africa (19.2° S, 17.7° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		8.36	28	270	---	---	1.8
01		7.64	28	262	---	---	2.61
02		7.02	29	285	---	---	2.63
03		6.51	29	262	---	---	1.6
04		5.92	29	262	---	---	2.58
05		6.00	28	290	---	---	2.2
06		8.12	29	250	114	2.45	2.81
07		9.56	28	238	110	3.28	2.70
08	---	10.26	30	230	---	107	3.70
09	---	11.12	31	225	---	4.02	4.1
10	430	11.56	30	215	6.42	4.21	4.6
11	420	11.82	30	215	6.55	4.32	2.35
12	430	11.88	30	225	6.55	4.37	4.5
13	430	11.74	30	220	6.30	4.32	4.4
14	425	11.82	29	220	6.15	4.20	4.2
15	405	11.52	28	230	6.00	3.96	2.38
16	(400)	11.17	27	240	5.75	3.56	2.43
17	---	10.85	29	250	---	2.96	3.0
18		10.83	28	280	120	2.14	2.8
19		10.84	28	285	---	---	2.4
20		10.78	27	275	---	---	2.5
21		10.28	29	270	---	---	2.2
22		9.76	28	280	---	---	1.8
23		9.05	29	285	---	---	2.0

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 56

Hollandia, Netherlands New Guinea (2.5° S, 140.8° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		(10.2)	9	---	100	---	4.0
01		(10.0)	3	---	---	---	<6.1
02		---	0	---	---	---	<8.1
03	---	(13.4)	3	---	---	---	<7.9
04	---	(14.0)	3	---	---	---	<8.7
05	---	(13.8)	4	---	---	---	<6.8
06	---	(13.5)	4	---	105	---	---
07		(13.5)	5	230	110	3.3	3.8
08		(13.2)	4	250	120	2.6	3.3
09		---	0	300	---	---	---
10		(12.3)	3	355	---	---	3.2
11		(11.8)	6	340	---	---	(2.50)
12		(10.6)	6	295	---	---	(2.80)
13		(10.3)	8	250	---	---	(2.76)
14		10.0	11	260	---	---	2.60
15		10.2	13	280	---	---	2.75
16		9.6	13	260	---	---	2.80
17		9.0	12	250	---	---	2.80
18		8.1	10	250	---	---	2.85
19		7.6	13	235	---	---	2.90
20		7.0	11	220	---	---	3.00
21		8.2	13	240	110	2.6	2.9
22		10.0	14	225	100	3.3	3.8
23		10.0	13	(220)	100	3.9	4.0

Time: 0.0°.

Sweep: 1.8 Mc to 20.0 Mc in 40 seconds.

Table 58

Tananarive, Madagascar (18.8° S, 47.5° E)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		8.8	28	280	---	E	2.8
01		8.2	29	285	---	E	2.6
02		7.6	30	285	---	E	2.7
03		6.8	29	285	---	E	2.4
04		6.7	30	285	---	E	2.5
05		6.4	29	305	---	E	1.7
06		8.0	28	260	115	2.50	2.70
07	---	>9.2	26	250	---	115	3.20
08	---	10.4	21	245	---	110	(3.70)
09	(400)	11.1	22	235	---	110	(4.10)
10	440	11.3	23	(230)	---	110	(4.20)
11	420	11.6	24	---	(6.4)	105	---
12	430	11.0	22	---	(6.3)	110	---
13	440	11.4	25	---	(6.4)	110	---
14	440	11.4	24	(245)	(5.9)	110	(4.20)
15	420	10.9	27	240	(5.8)	110	3.90
16	405	10.8	22	250	(5.3)	115	3.45
17	---	10.1	27	265	---	120	2.95
18		9.4	25	295	---	2.10	2.8
19		10.2	24	305	---	---	2.7
20		10.4	23	300	---	---	2.2
21		10.3	25	290	---	---	2.3
22		9.2	22	295	---	---	2.4
23		9.0	26	290	---	E	2.5

Time: 45.0°E.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 60

Halley Bay (75.5° S, 26.6° W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	470	(7.25)	28	295	3.90	115	2.50
01	430	7.95	28	290	4.10	115	2.55
02	450	7.90	28	290	4.10	110	<2.70
03	450	>7.95	28	280	4.20	110	<2.80
04	475	(7.40)	29	275	4.30	105	(2.90)
05	490	>7.20	30	260	4.50	105	(3.00)
06	500	7.80	29	250	4.60	105	(3.20)
07	525	7.00	31	245	4.70	105	(3.40)
08	500	7.00	30	245	4.90	105	(3.45)
09	525	>6.80	31	250	5.00	105	(3.55)
10	545	6.70	31	245	5.10	105	(3.60)
11	550	6.60	29	245	5.15	<105	<3.60
12	550	6.55	30	245	5.15	<105	>3.60
13	540	6.60	30	245	5.30	(100)	<3.70
14	540	6.60	30	<245	5.30	(105)	<3.60
15	505	>6.60	30	245	5.30	(105)	(3.50)
16	465	6.80	31	250	5.10	105	(3.40)
17	455	6.90	29	250	5.00	(105)	(3.25)
18	450	7.00	30	260	4.85	(105)	(3.15)
19	415	7.20	30	260	4.60	(110)	(2.90)
20	(460)	7.40	30	270	4.35	(110)	(2.80)
21	(455)	7.40	29	275	4.30	115	2.70
22	---	7.30	30	280	---	115	2.60
23	---	7.30	27	200	---	115	2.60

Time: 30.0°W.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 61

Rabat, Morocco (30.9° N, 6.8° W)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(7.9)	25	<260				(2.75)
01	(7.8)	26	<250				(2.80)
02	>7.1	26	<250				2.85
03	6.8	25	<250				3.05
04	5.9	25	<245				3.15
05	4.5	24	<235				2.95
06	4.1	23	<275				2.90
07	6.8	22	255				3.00
08	>11.0	21	235	120	2.40		(3.20)
09	(12.9)	24	235	115	3.05		3.05
10	13.4	23	235	115	3.40		3.00
11	13.8	26	235	110	3.60		2.80
12	13.7	27	240	110	3.60		2.70
13	13.6	26	240	110	3.60		2.65
14	13.4	26	245	115	3.55		2.65
15	13.1	26	250	120	3.20		2.65
16	12.9	21	250	115	2.80	3.2	2.70
17	12.6	22	250	130	2.05	2.2	(2.80)
18	(10.7)	25	<240			2.6	2.90
19	(9.9)	28	<250			2.4	(2.70)
20	>9.0	28	<250				2.65
21	>9.0	28	<250				2.1
22	>9.0	27	<260			2.0	2.70
23	8.4	27	<250				2.80

Time: 0.0°.
Sweep: 1.6 Mc to 17.0 Mc in 1 minute.

Table 63

Tahiti, Society Is. (17.7° S, 149.3° W)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	11.8	25	255			3.1	2.70
01	10.8	25	280			3.1	2.50
02	10.3	25	300			3.0	2.50
03	10.2	26	300			2.6	2.55
04	10.0	26	290			2.8	2.55
05	9.8	26	300			2.8	2.65
06	11.5	23	255	115	2.40	3.1	2.85
07	12.3	23	245	105	3.15	3.6	2.90
08	12.2	22	240	105	3.70	4.4	2.60
09	12.8	25	240	105	3.95	5.1	2.45
10	13.6	22	240	105	(4.20)	5.0	2.40
11	460	15.0	23	240	105	(4.25)	2.40
12	445	15.9	25	240	105	(4.20)	2.40
13	440	16.0	26	240	(7.3)	105	(4.25)
14	430	16.2	26	250	(6.9)	105	(4.20)
15	430	16.0	27	250		105	3.85
16	410	15.5	27	250		105	3.50
17	---	15.0	27	270	115	2.80	4.0
18	14.4	22	300			3.8	2.40
19	14.0	24	355			4.0	2.35
20	14.3	23	370			3.1	2.35
21	15.0	26	330			3.1	2.45
22	15.0	26	305			3.1	2.60
23	14.4	27	280			3.1	2.70

Time: 150.0°W.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 65

Tsumeb, South W. Africa (19.2° S, 17.7° E)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	9.90	29	260				2.77
01	8.81	29	248				2.73
02	8.01	28	250				2.71
03	7.18	26	250				2.80
04	6.23	29	240				2.73
05	6.28	29	265	130	1.28	1.5	2.74
06	10.55	29	240	115	2.50		2.90
07	10.15	30	230	110	3.20		2.86
08	11.34	28	220	110	3.62		2.64
09	11.95	29	220		3.94		2.50
10	---	12.78	29	220	---	4.14	2.46
11	(482)	13.13	28	215	6.53	---	4.5
12	400	13.40	28	220	6.60	---	2.43
13	(410)	13.50	27	220	6.77	---	2.44
14	395	13.48	26	225	6.72	---	2.42
15	(435)	13.30	27	230	6.15	---	2.44
16	---	13.17	29	242	---	3.81	3.9
17	---	12.62	30	255	---	3.38	4.0
18	---	12.51	30	270	115	2.67	3.6
19	12.00	26	270			3.0	2.58
20	11.68	28	265			2.4	2.62
21	11.60	27	268			2.2	2.62
22	11.50	29	265			2.0	2.64
23	10.82	28	265			1.8	2.70

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 62

Tamanrasset, French W. Africa (22.8° N, 5.5° E)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	D	22	225			---	2.4
01	>14.2	26	220			---	2.4
02	>10.9	20	205			---	2.0
03	>7.4	28	200			---	2.1
04	5.0	24	230			---	2.4
05	4.5	27	255			---	2.6
06	7.9	29	270			---	2.8
07	12.6	28	245	110	2.80	3.0	(3.25)
08	>14.8	30	235	105	3.30	4.4	3.20
09	---	>15.5	30	225	100	3.65	(3.00)
10	---	>15.5	30	220	100	3.85	(2.80)
11	(360)	>15.7	30	220	100	4.00	(2.70)
12	375	>16.2	30	220	---	100	3.95
13	380	D	29	230	---	100	3.80
14	380	D	30	230	---	105	3.65
15	370	D	28	240	---	105	3.20
16	D	D	30	255	---	110	2.50
17	D	D	<275			---	3.2
18	D	D	29	310	---	---	2.6
19	D	D	26	310	---	---	2.3
20	D	D	24	270	---	---	2.3
21	D	D	24	240	---	---	2.1
22	D	D	30	230	---	---	2.0
23	D	D	29	230	---	---	2.0

Time: 0.0°.
Sweep: 1.2 Mc to 17.0 Mc in 1 minute.

Table 64

Tananarive, Madagascar (18.8° S, 47.5° E)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>9.3	14	<260			---	2.2
01	8.5	13	270			---	1.8
02	8.3	14	300			---	1.8
03	>8.1	14	290			---	2.65
04	>7.3	14	260			---	2.55
05	>7.0	14	285			---	1.8
06	8.4	13	250			(115)	2.65
07	>10.0	13	250			---	(3.20)
08	---	(11.0)	7	(235)	---	---	(3.70)
09	(390)	(12.0)	9	---	---	---	(4.0)
10	---	(11.8)	14	---	---	---	(4.1)
11	(430)	12.3	13	---	---	---	2.40
12	---	12.2	10	---	---	---	(2.35)
13	(430)	12.2	10	---	(6.6)	---	2.40
14	430	12.2	14	(230)	(6.2)	---	4.10
15	(415)	12.0	15	(240)	---	---	(3.80)
16	---	11.5	15	250	---	3.35	3.9
17	(11.2)	14	(260)	---	---	2.80	3.2
18	11.2	14	300	---	---	---	2.6
19	11.2	13	300	---	---	---	2.7
20	>11.4	14	290	---	---	---	2.3
21	>11.4	14	290	---	---	---	2.4
22	11.2	13	285	---	---	---	2.3
23	10.8	15	275	---	---	---	2.1

Time: 45.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes.

Table 66

Port Lockroy (64.8° S, 63.5° W)							
November 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	11.0	30	325			---	1.0
01	<11.2	30	335			---	2.40
02	11.2	30	340			---	1.2
03	11.3	30	320			1.7	1.5
04	11.4	30	290			2.2	2.3
05	11.4	30	265			2.5	<2.7
06	11.2	30	255			(2.9)	3.2
07	10.6	29	245			(3.2)	3.5
08	10.4	29	245			(3.4)	3.9
09	10.2	30	<250			(3.6)	4.2
10	10.0	30	230			(3.7)	4.2
11	9.6	30	235			(3.8)	4.2
12	9.3	30	240			(3.8)	4.2
13	0.7	30	240			(3.8)	4.3
14	8.6	30	<240			3.6	4.4
15	8.5	30	240			(3.5)	3.9
16	8.3	28	245			(3.4)	3.7
17	8.4	30	250			(3.1)	3.8
18	8.5	29	(260)			2.8	3.8
19	8.6	28	265			(2.6)	3.2
20	9.0	30	285			2.0	2.5
21	9.6	30	295			1.6	2.0
22	10.0	30	315			---	1.4
23	10.5	30	320			---	2.40

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 67

Inverness, Scotland (57.4° N, 4.2° W)							
August 1958							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	6.6	27	300				<1.2 2.45
01	6.3	27	320				1.8 2.35
02	5.7	28	325				3.0 2.35
03	5.5	28	320				2.2 2.40
04	5.2	28	330		115	1.40	1.9 2.50
05	5.4	24	295		105	2.00	2.65
06	---	6.0	24	260	---	115	2.50 2.70
07	(520)	6.3	26	250	4.6	110	2.90 3.2
08	(440)	6.7	24	245	5.0	110	3.25 >3.5 2.60
09	(565)	7.1	29	235	5.1	105	3.50 3.8 2.55
10	490	7.3	27	235	5.4	105	3.60 3.9 2.55
11	480	7.6	20	220	5.4	105	3.70 2.55
12	510	7.5	28	235	5.7	105	3.80 2.50
13	435	7.6	28	225	5.6	105	3.00 2.50
14	495	7.5	30	235	5.6	105	3.70 2.50
15	445	7.8	30	240	5.3	105	3.65 2.55
16	(475)	8.0	26	240	5.2	105	3.50 2.55
17	---	7.9	26	245	---	110	3.10 2.60
18	8.1	25	260		115	2.80	3.2 2.70
19	7.9	27	265		120	2.30	2.8 2.65
20	8.0	28	270		---	1.80	2.4 2.70
21	7.6	29	270				2.6 2.55
22	7.5	28	275				<1.6 2.50
23	>7.0	28	290				1.3 2.45

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 69

Kerguelen I. (49.4° S, 70.3° E)							
November 1956							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.6	16	335		---	---	3.0 (2.45)
01	(4.2)	19	350		---	---	3.0 (2.30)
02	(3.8)	13	350		---	---	3.0
03	(3.8)	14	390		---	---	3.2
04	---	4.1	16	355	---	---	1.45 (2.25)
05	(550)	5.0	20	300	3.6	120	2.25 2.8
06	540	5.6	24	260	4.4	110	2.85 2.25
07	555	6.3	25	250	4.8	105	3.25 2.25
08	550	7.0	24	240	5.0	105	3.50 2.25
09	540	7.2	27	240	5.4	105	3.80 2.25
10	540	7.4	25	230	5.4	110	4.00 2.25
11	515	>7.5	25	230	5.6	105	4.00 4.3 2.25
12	545	7.9	27	240	5.5	110	4.00 4.2 2.25
13	510	7.7	28	240	5.5	105	4.00 2.25
14	505	8.0	27	230	5.4	105	4.00 2.25
15	500	7.8	28	235	5.3	105	3.70 2.35
16	500	7.9	27	240	5.1	110	3.50 3.6 2.40
17	(505)	7.6	28	250	5.0	110	3.20 3.5 2.50
18	---	6.3	23	260	---	110	2.70 2.9 2.60
19	>7.0	20	265		---	2.20	2.4 2.70
20	6.4	22	280		---	1.40	1.6 2.70
21	5.7	25	280		---	---	2.6 2.55
22	5.0	21	300		---	---	3.1 2.60
23	4.9	10	285		---	---	2.7 2.55

Time: Local.

Sweep: 0.80 Mc to 14.14 Mc in 10 minutes, automatic operation.

Table 71

Lwiro, Belgian Congo (2.3° S, 28.8° E)							
November 1955							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	8.8	22	215				2.87
01	8.8	25	260				2.82
02	9.0	25	265				3.02
03	7.8	22	240				3.12
04	6.1	23	220				3.22
05	4.6	22	220				3.27
06	---	6.4	24	250		133	1.80 3.29
07	260	8.1	23	230		113	2.60 3.23
08	275	9.1	25	225	(4.6)	111	3.10 2.98
09	290	10.0	28	220	(5.0)	109	3.50 2.82
10	340	10.3	28	210	(5.0)	111	3.65 2.66
11	(450)	11.0	27	205	(5.0)	109	3.75 2.60
12	435	11.3	23	210	5.1	111	3.80 2.56
13	425	12.0	28	205	5.1	111	3.70 2.54
14	430	12.0	28	210	(4.9)	113	3.60 2.56
15	420	12.4	28	225	5.0	113	3.35 2.60
16	380	12.6	27	230	---	113	2.95 2.64
17	360	12.6	28	245	---	117	2.35 (2.8)
18	---	12.0	28	280	---	---	(2.2) 2.64
19	12.2	27	320				(2.0) 2.57
20	12.4	27	310				(1.7) (2.61)
21	13.5	26	270				(1.5) (2.80)
22	>14.0	27	235				(3.28)
23	12.0	25	210				3.30

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 68

Slough, England (51.5° N, 0.6° W)							
August 1958							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>6.9	26	300				<2.0 2.40
01	6.7	25	300				2.3 2.40
02	6.5	24	305				2.4 2.35
03	6.1	26	300				2.4 2.40
04	5.5	26	325		---	<1.40	1.8 2.45
05	---	6.1	25	280	---	125	1.80 2.3 2.60
06	---	6.6	25	250	---	115	2.60 3.0 2.65
07	---	7.1	23	245	4.8	110	<3.20 3.4 2.60
08	460	7.5	25	230	5.1	105	3.60 4.4 2.65
09	465	7.8	25	230	5.5	100	3.70 4.4 2.60
10	440	8.5	23	220	6.1	100	3.90 4.3 2.55
11	445	8.5	21	220	5.9	100	4.00 5.0 2.55
12	420	8.6	23	220	6.0	100	4.05 4.6 2.50
13	410	8.3	25	225	6.0	100	4.00 4.4 2.60
14	440	8.2	26	230	6.0	100	3.95 4.2 2.55
15	435	8.0	27	235	5.9	100	3.00 3.9 2.55
16	425	0.2	25	235	5.6	105	<3.60 3.8 2.65
17	---	8.4	25	250	---	105	3.20 2.65
18	8.6	25	250			115	2.70 3.6 2.70
19	8.4	23	270			115	<2.00 4.0 2.75
20	8.3	23	270			---	--- 3.3 2.65
21	(7.3)	22	275			---	--- 3.6 (2.45)
22	(7.5)	24	300			---	--- 3.3 (2.45)
23	(7.2)	24	290			---	--- 2.7 (2.45)

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 70

Lwiro, Belgian Congo (2.3° S, 28.8° E)							
December 1955							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	8.8	28	230				2.84
01	8.4	29	255				2.90
02	7.9	28	250				3.00
03	7.1	28	240				3.16
04	6.1	27	220				3.16
05	4.7	20	230				3.14
06	---	5.6	28	255		139	1.50 3.20
07	260	7.4	28	235		113	2.55 3.11
08	300	8.4	28	225	(4.9)	111	3.10 2.91
09	315	9.2	29	215	(4.9)	107	3.45 2.67
10	370	10.2	30	205	(5.1)	107	3.65 2.50
11	520	10.4	31	205	5.2	107	3.80 2.41
12	500	10.9	31	200	5.2	109	3.80 2.41
13	455	12.0	30	200	5.2	107	3.80 2.50
14	420	12.3	31	210	5.1	109	3.65 2.50
15	450	12.1	31	215	(5.0)	109	3.45 2.50
16	440	11.7	30	220	(3.8)	111	3.00 2.50
17	420	11.8	30	245	---	115	2.45 2.49
18	---	11.5	30	285		135	1.60 (1.9) 2.59
19	---	10.8	30	320		---	--- (1.6) 2.53
20	11.0	30	330			---	--- (1.6) 2.55
21	12.2	30	290			---	--- 2.78
22	12.9	29	235			---	--- 3.15
23	10.1	27	210			---	--- 3.03

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 72

Lwiro, Belgian Congo (2.3° S, 28.8° E)							
October 1955*							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>8.0	16	200				2.88
01	7.6	14	250				2.88
02	7.3	12	260				2.98
03	6.9	13	250				3.06
04	6.4	14	230				3.26
05	---	6.4	15	225			2.0 3.43
06	---	6.4	19	240		---	--- 2.4 3.38
07	240	7.6	19	230		117	2.55 3.46
08	270	8.3	19	225	---	111	3.05 3.22
09	290	9.0	19	215	(4.6)	112	3.35 2.87
10	310	10.1	18	210	4.9	---	--- 2.80
11	315	10.6	18	210	4.9	111	3.70 2.83
12	385	10.6	19	205	4.9	111	3.70 2.61
13	410	11.4	19	204	5.0	110	3.65 2.60
14	380	12.4	18	210	5.0	111	3.50 2.67
15	370	12.4	19	(210)	---	111	3.20 3.3
16	360	12.4	20	(210)	---	113	2.80 3.2 2.78
17	355	12.6	20	245	---	121	2.30 3.0 2.68
18	>12.9	20	280				2.4 2.67
19	>13.1	18	310				1.8 (2.72)
20	(13.0)	17	280				1.6 (2.91)
21	>13.5	18	240				(3.18)
22	(13.6)	17	210				(3.46)
23	10.9	16	200				(3.50)

Time: Local.

Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

* Observations taken 12 through 31 only.

USCOMM-NBS-8L

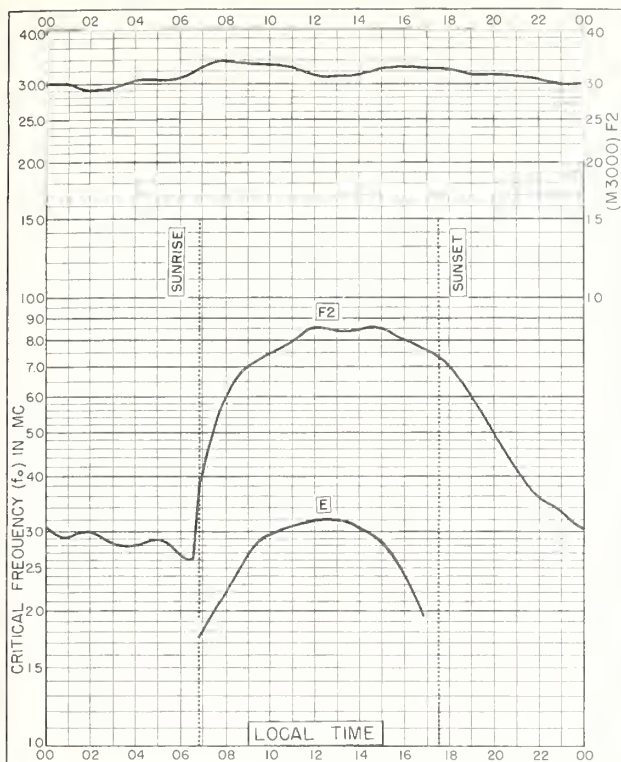


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W
FEBRUARY 1961

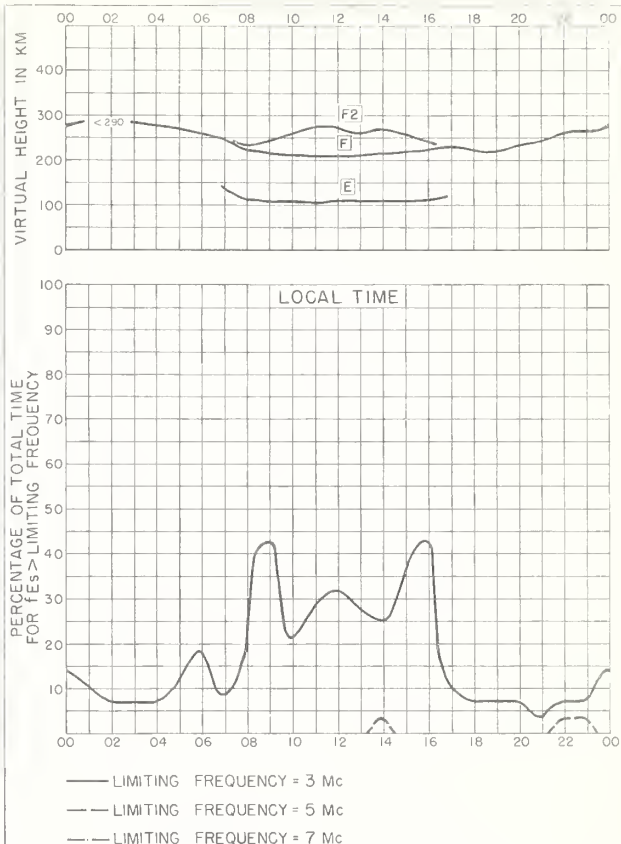


Fig. 2. WASHINGTON, D. C.
FEBRUARY 1961

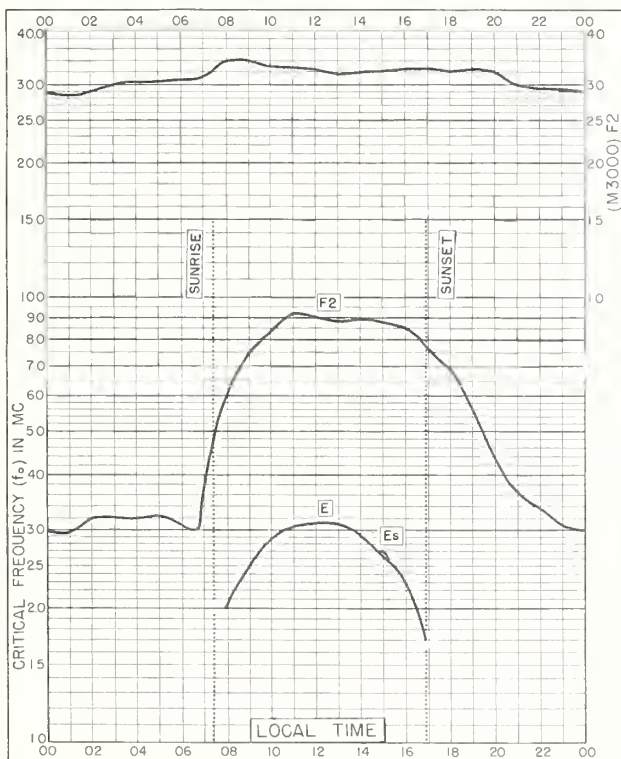


Fig. 3. WASHINGTON, D. C.
38.7°N, 77.1°W
JANUARY 1961

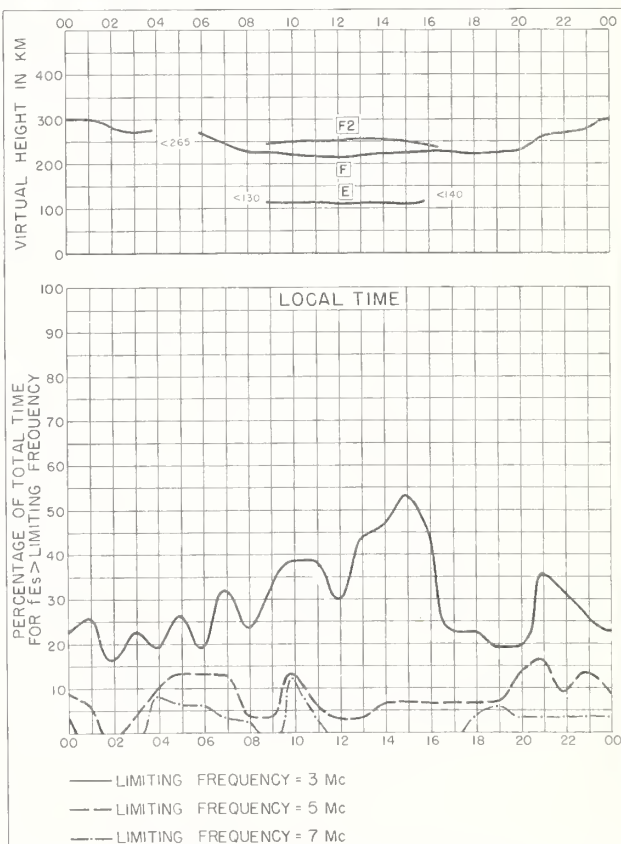
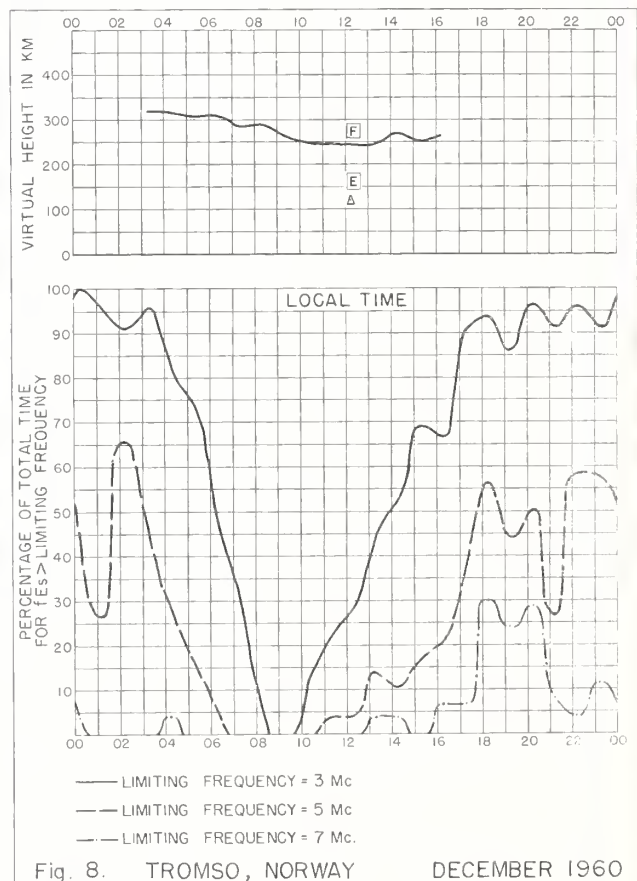
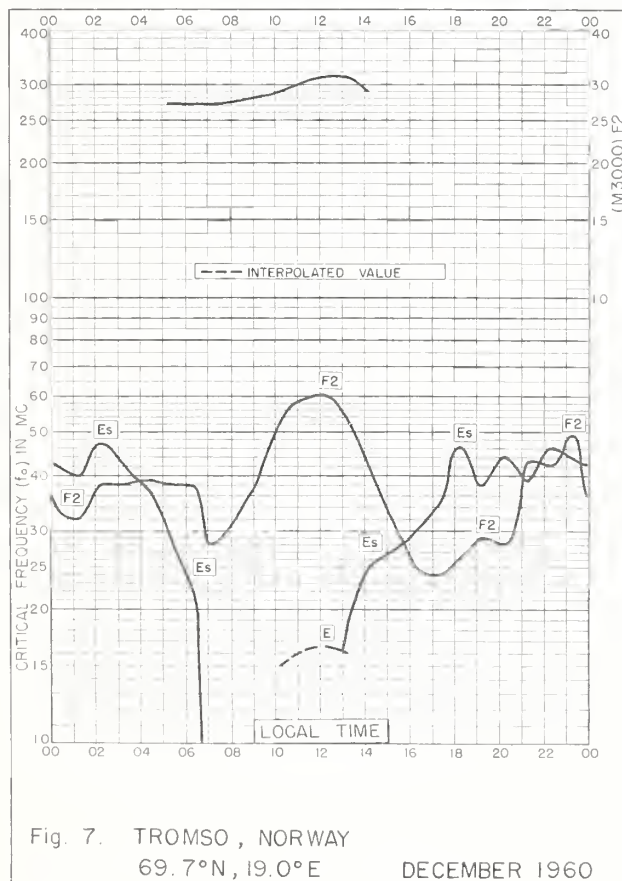
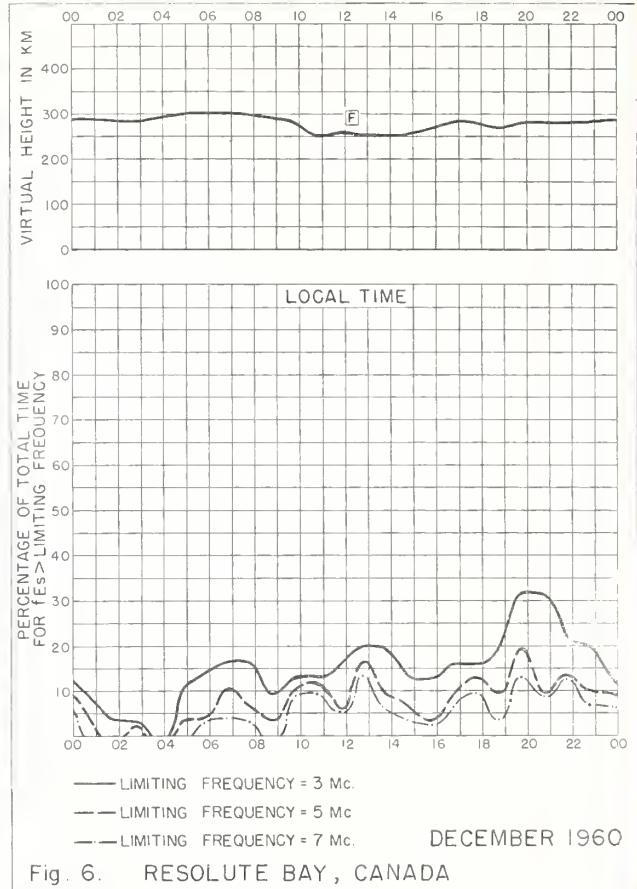
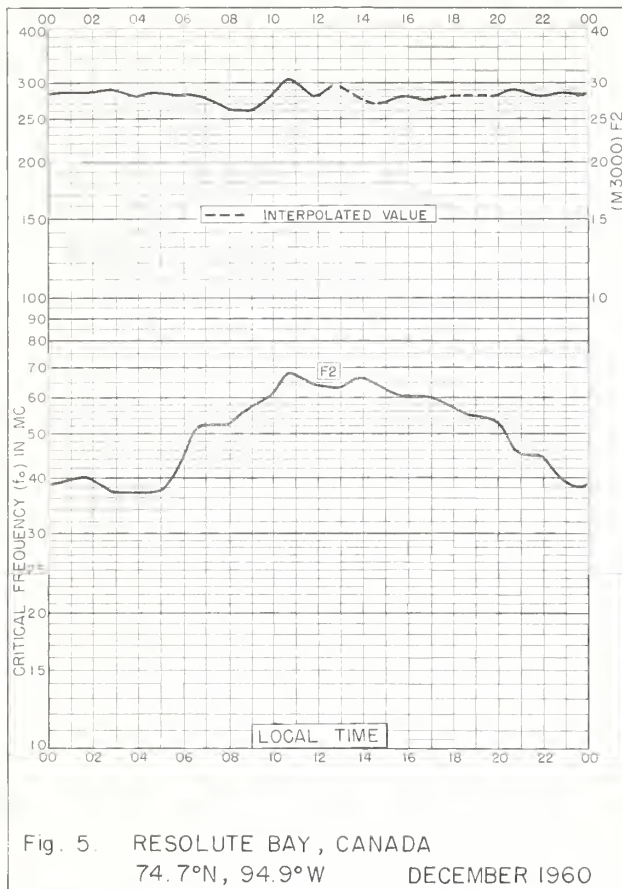


Fig. 4. WASHINGTON, D. C.
JANUARY 1961



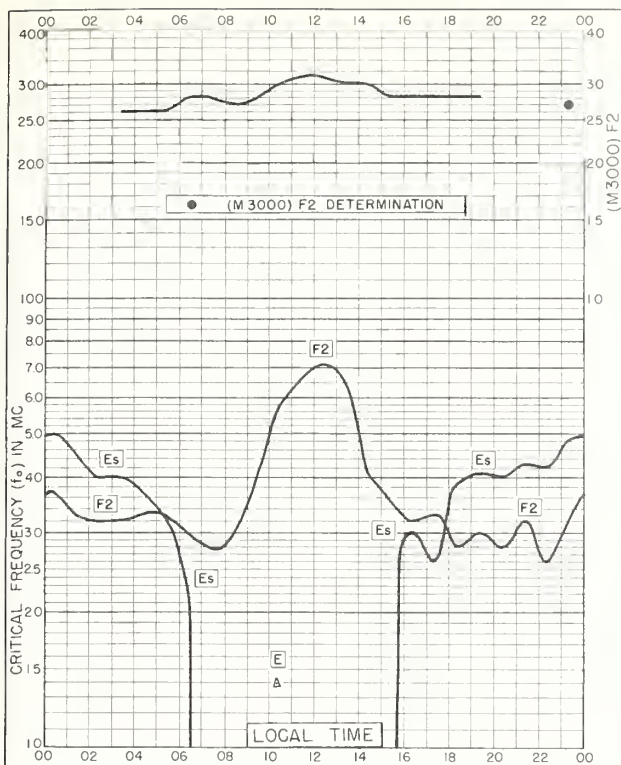


Fig. 9. KIRUNA, SWEDEN
67.8°N, 20.3°E

DECEMBER 1960

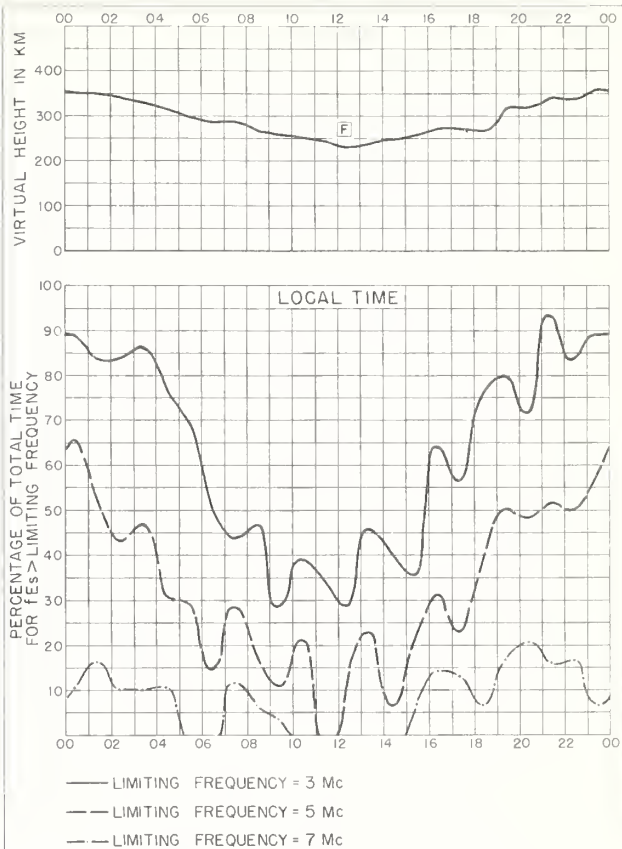


Fig. 10. KIRUNA, SWEDEN

DECEMBER 1960

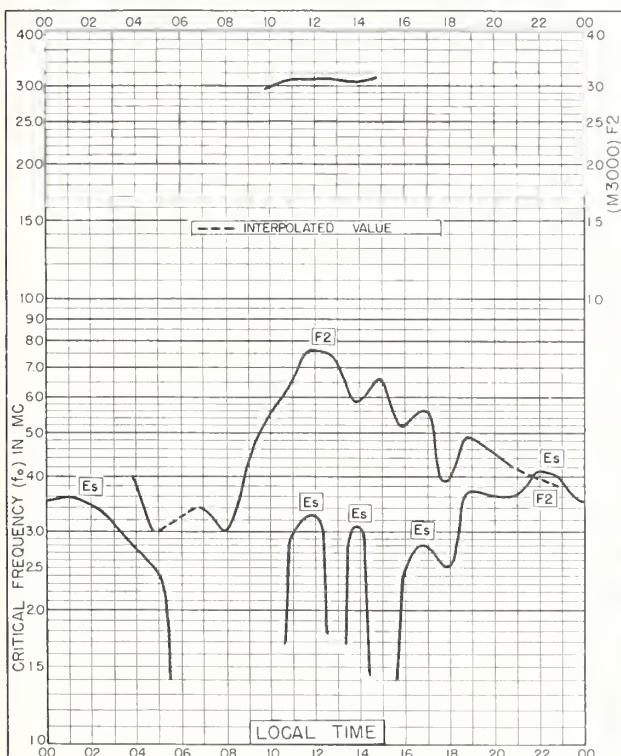


Fig. 11. SODANKYLA, FINLAND

67.4°N, 26.6°E

DECEMBER 1960

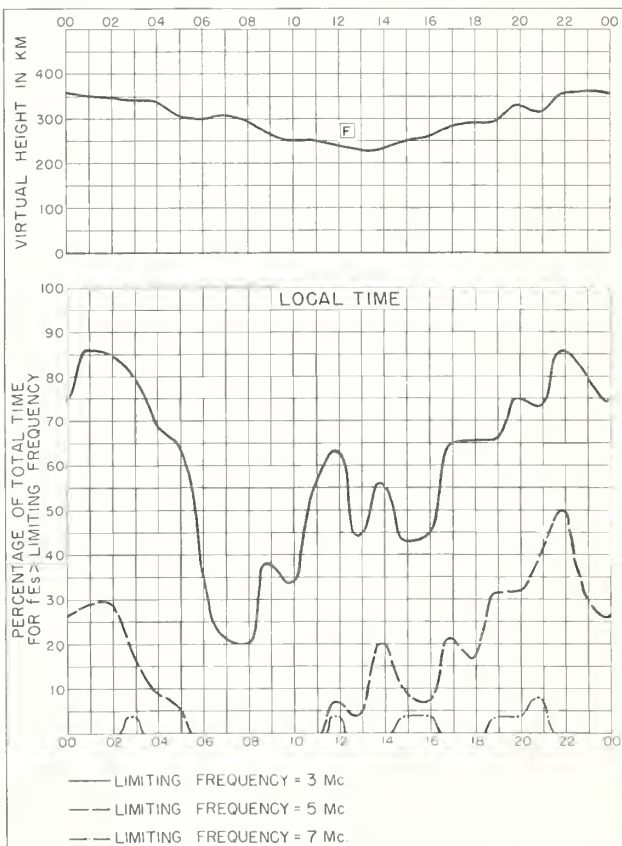
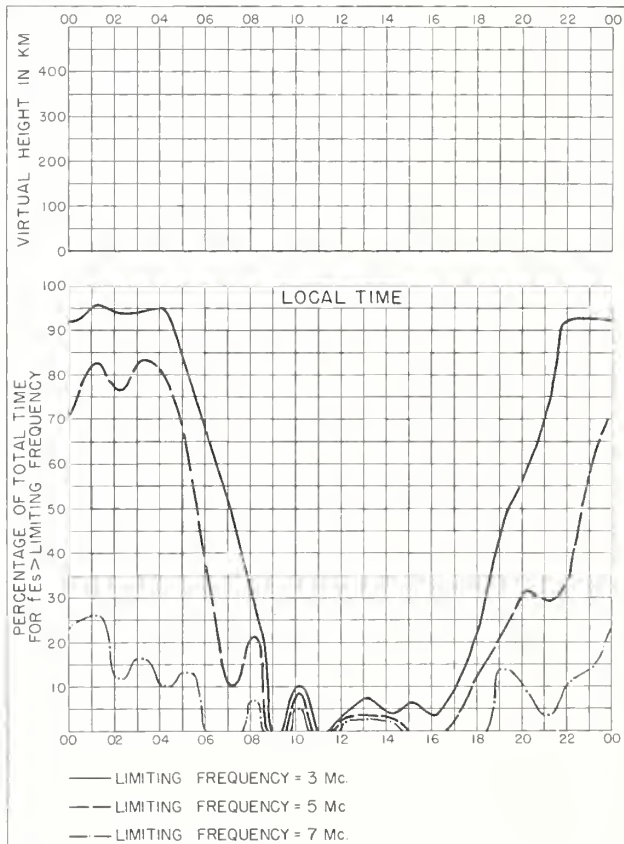
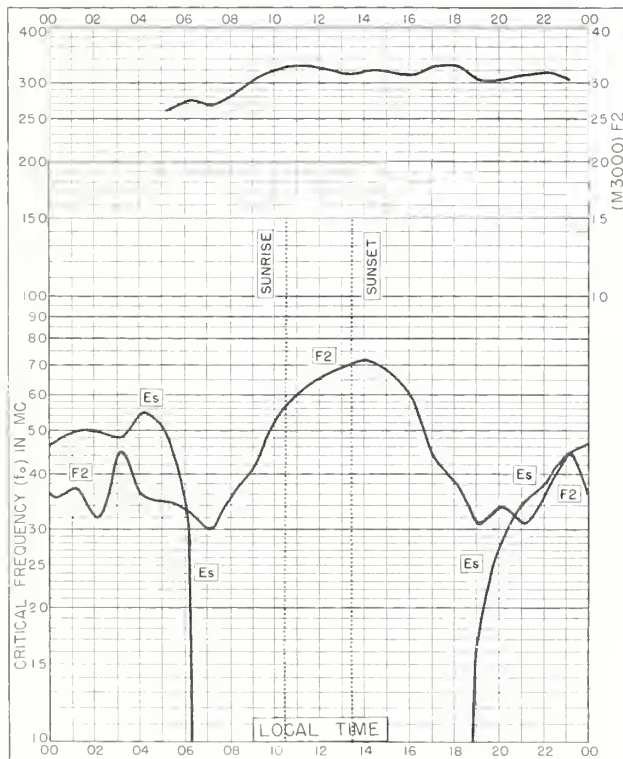
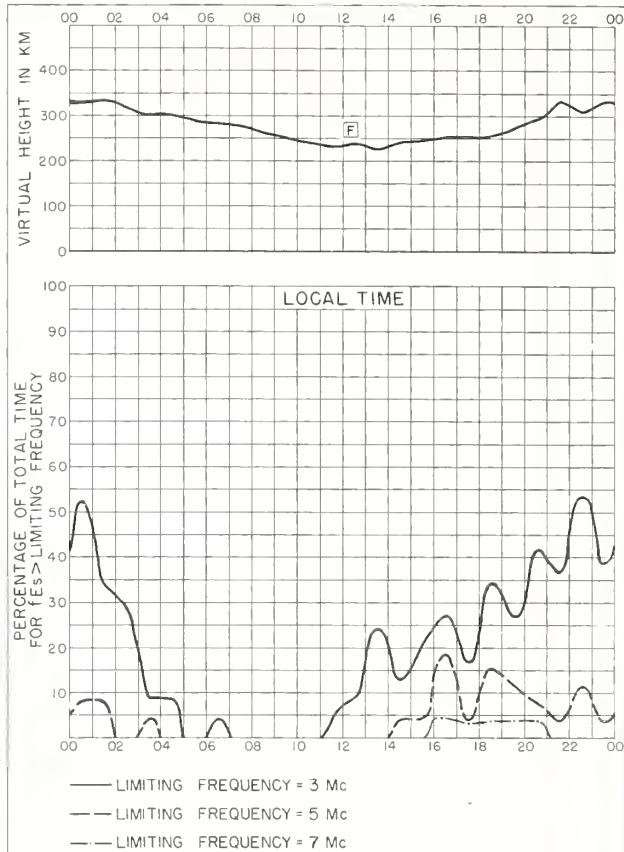
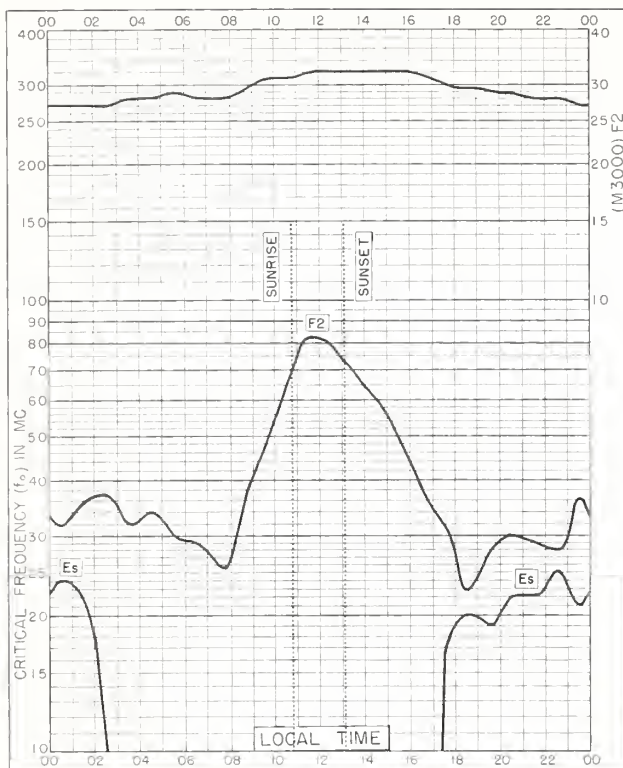


Fig. 12. SODANKYLA, FINLAND

DECEMBER 1960



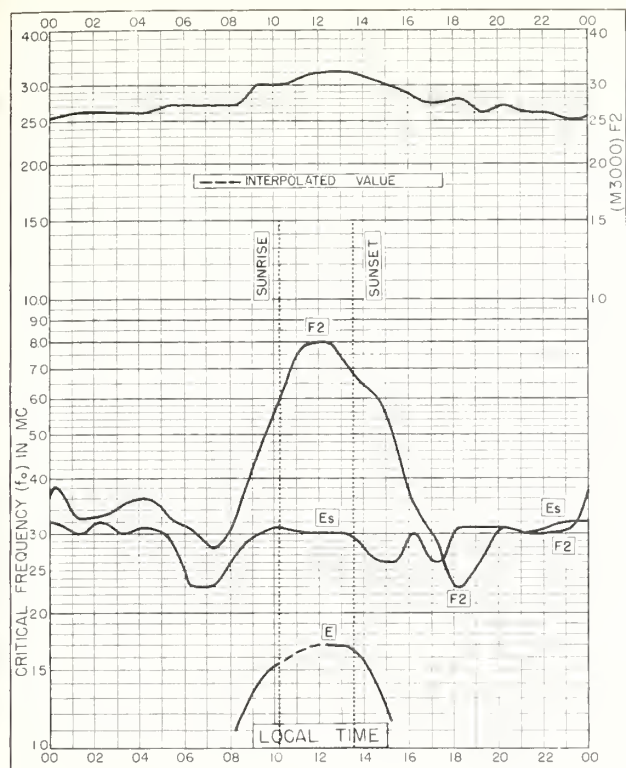


Fig. 17. LYCKSELE, SWEDEN
64.6°N, 18.8°E

DECEMBER 1960

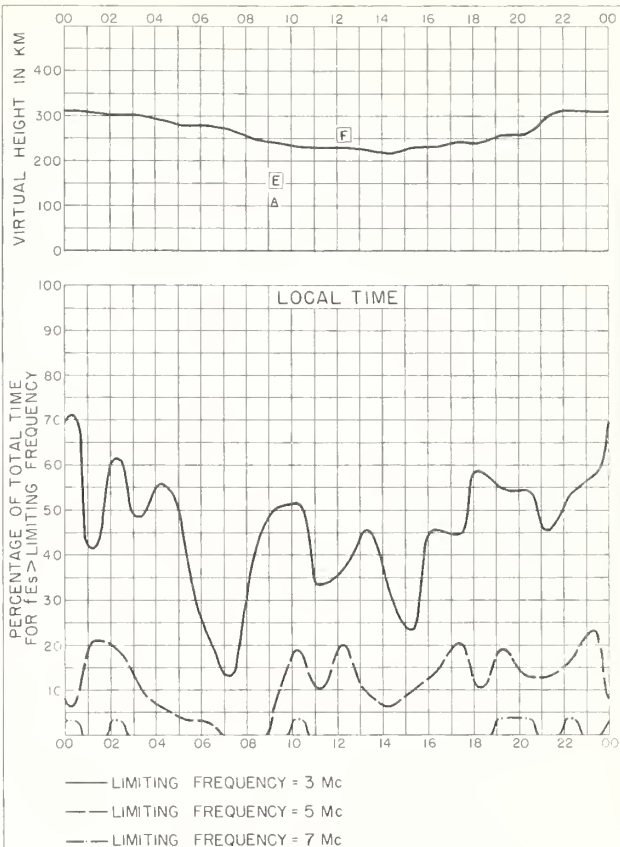


Fig. 18. LYCKSELE, SWEDEN

DECEMBER 1960



Fig. 19. ANCHORAGE, ALASKA
61.2°N, 149.9°W

DECEMBER 1960

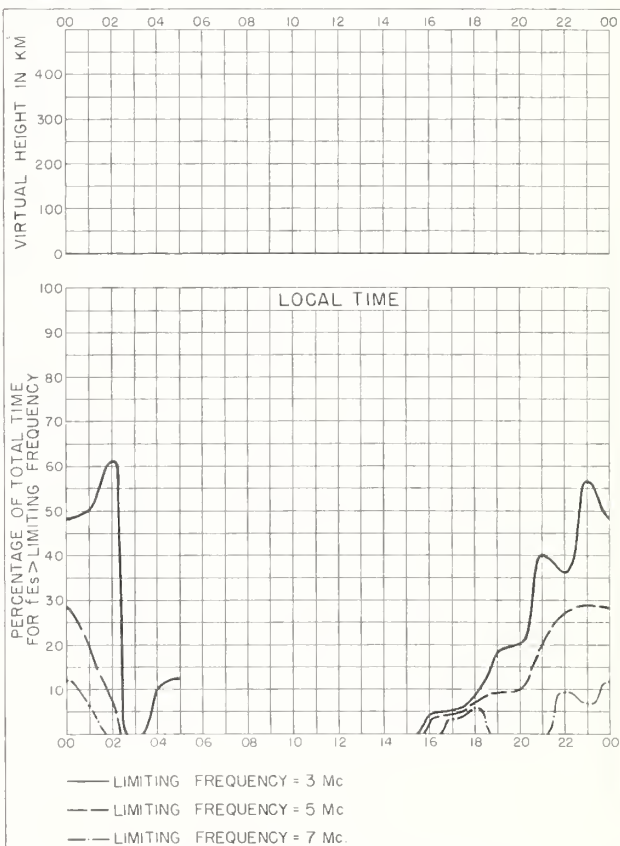
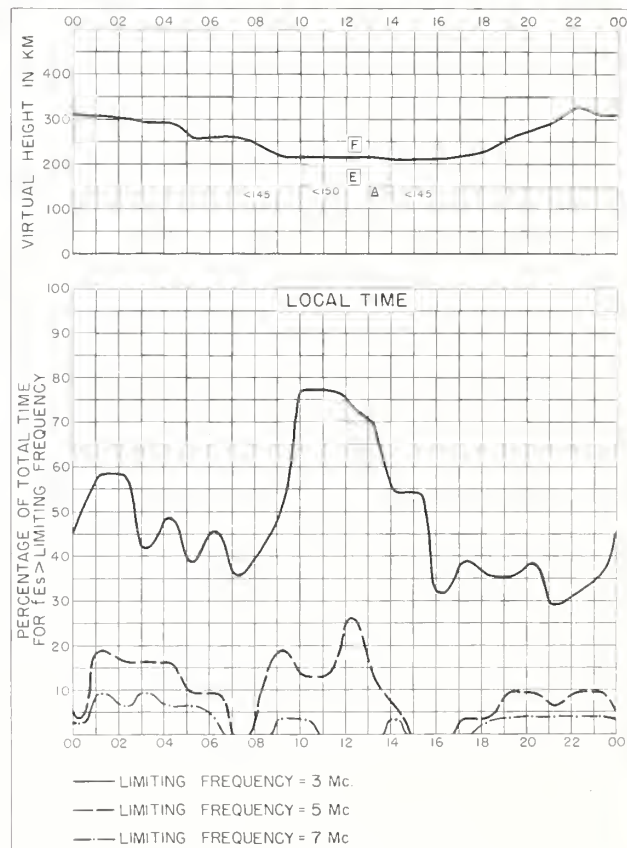
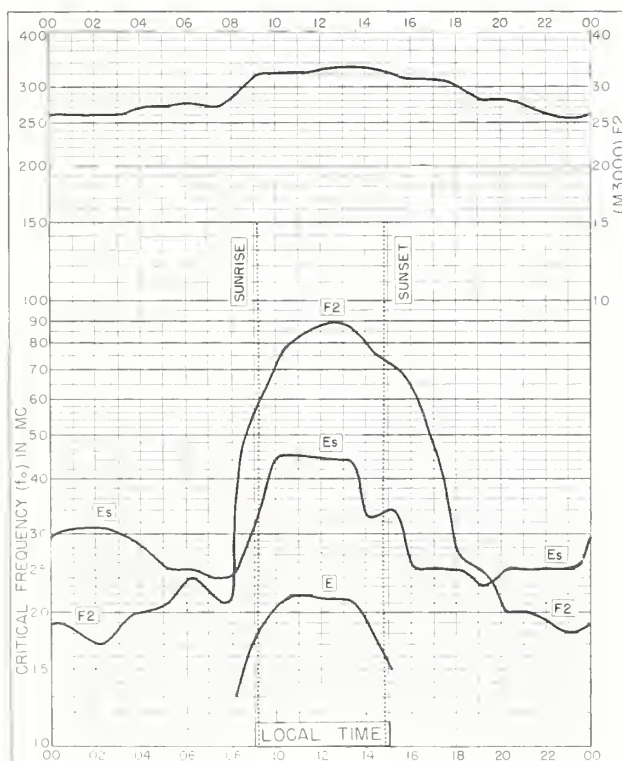
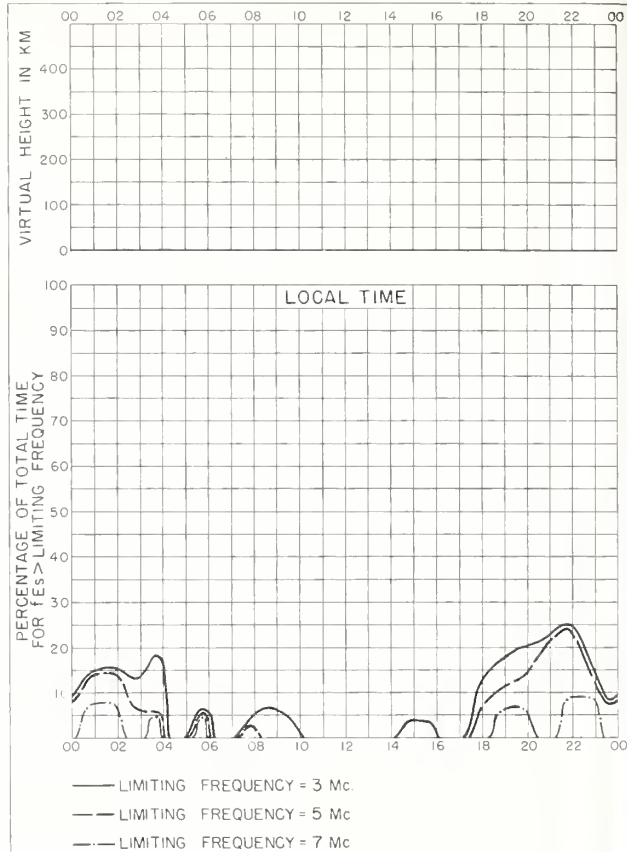
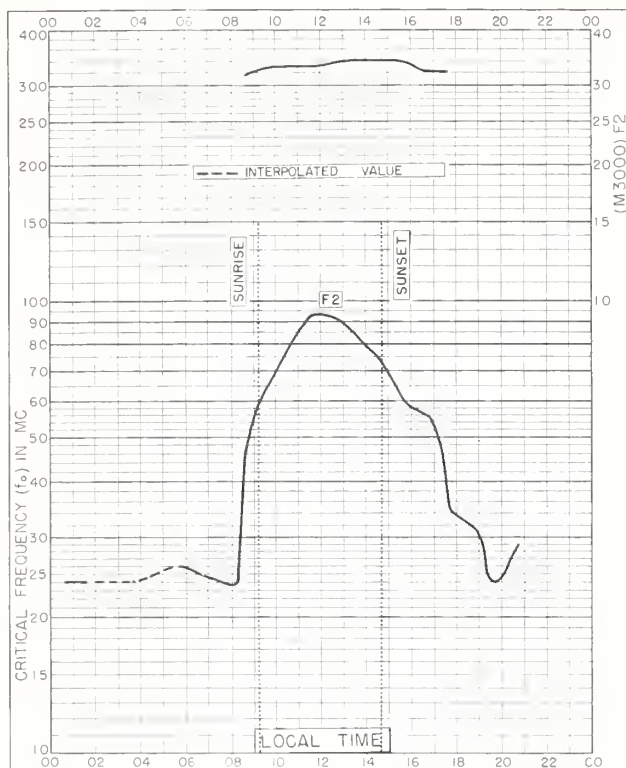


Fig. 20. ANCHORAGE, ALASKA

DECEMBER 1960



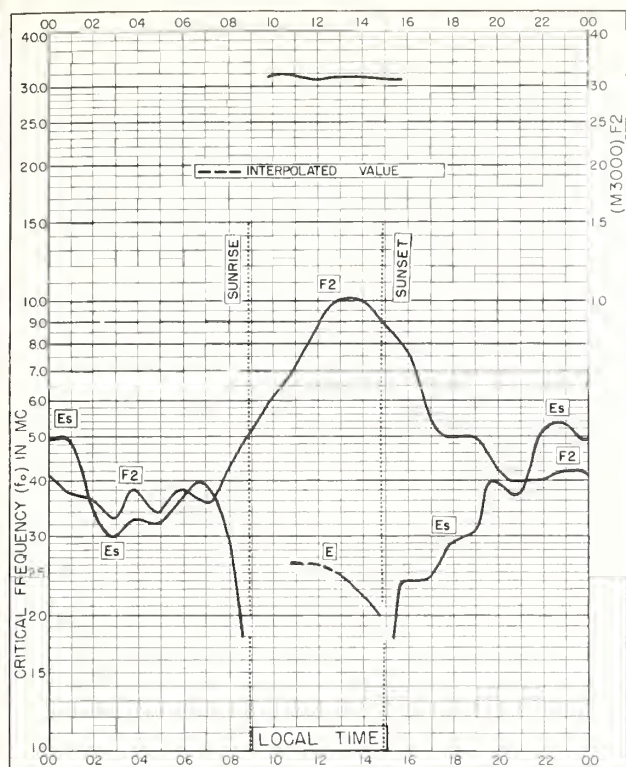


Fig. 25. CHURCHILL, CANADA

58.8°N, 94.2°W

DECEMBER 1960

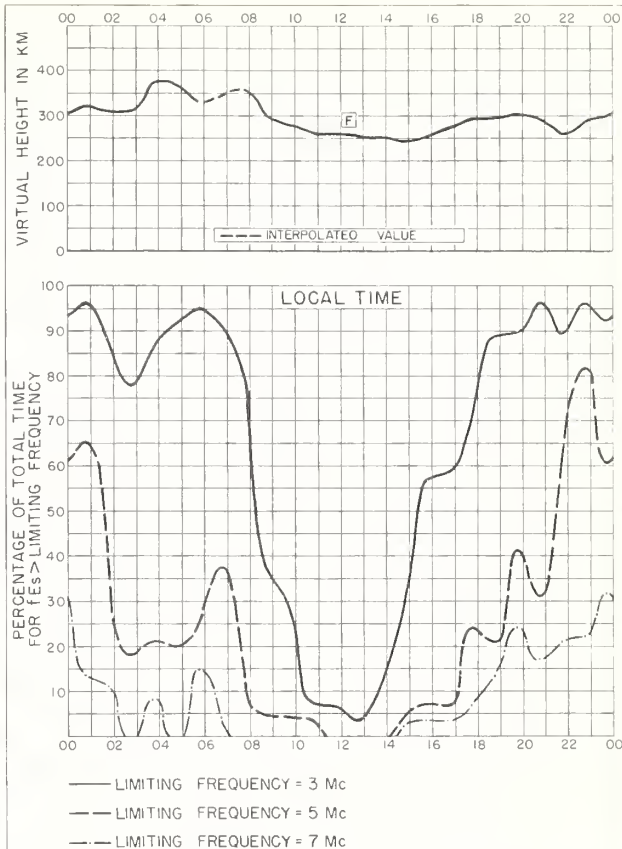


Fig. 26. CHURCHILL, CANADA

DECEMBER 1960

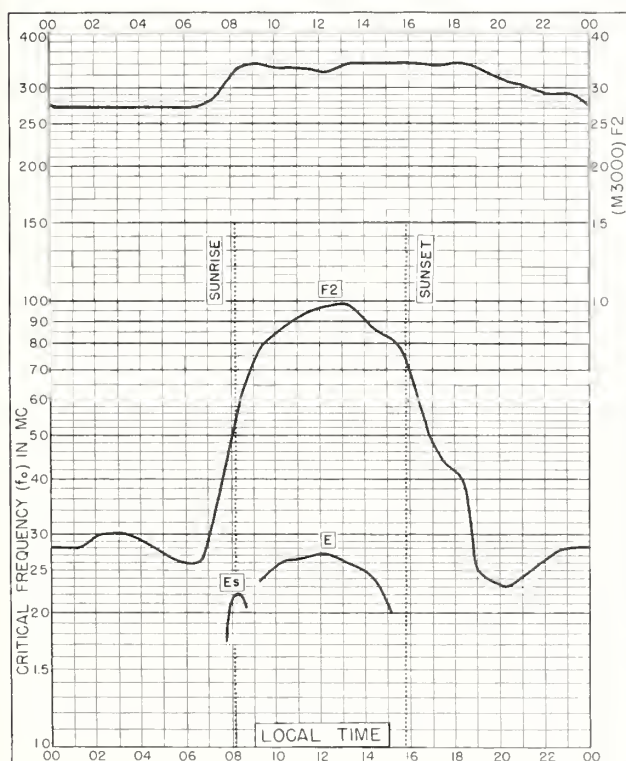


Fig. 27. ADAK, ALASKA

51.9°N, 176.6°W

DECEMBER 1960

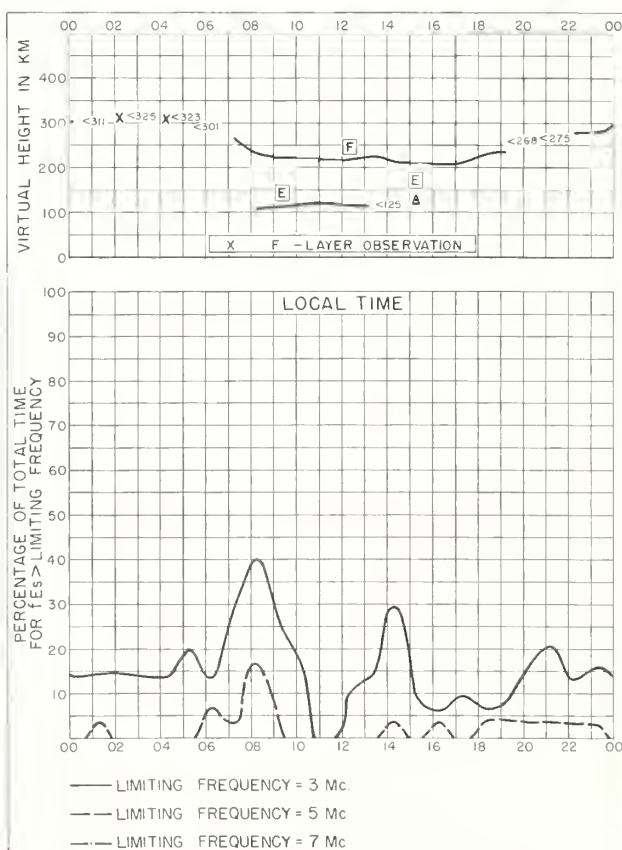
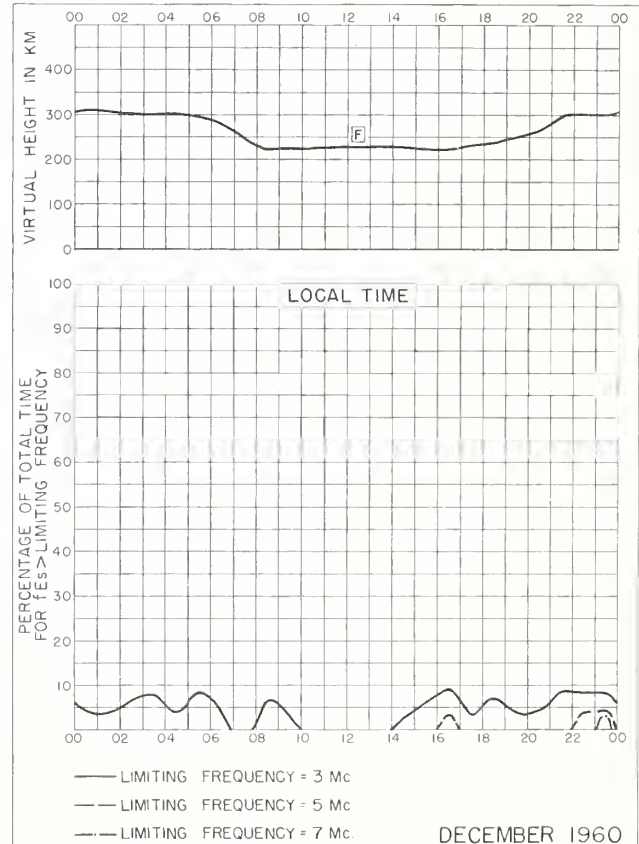
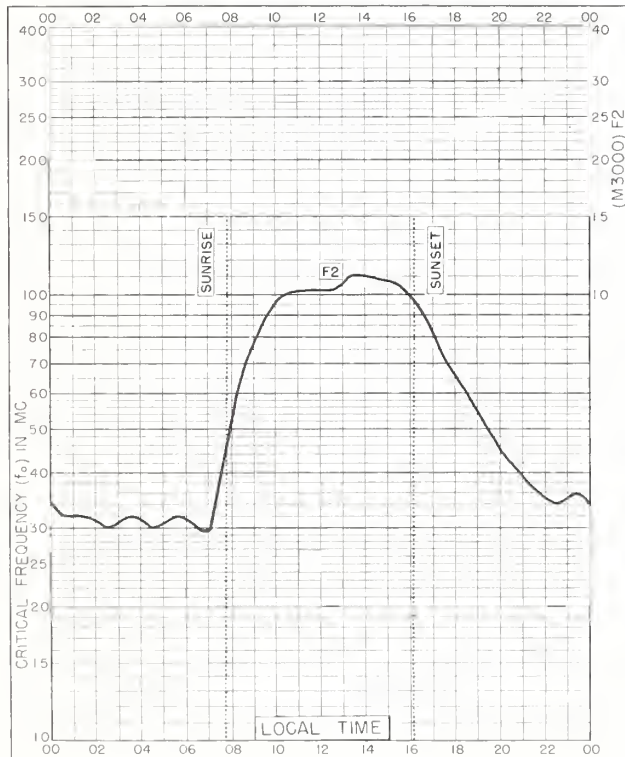
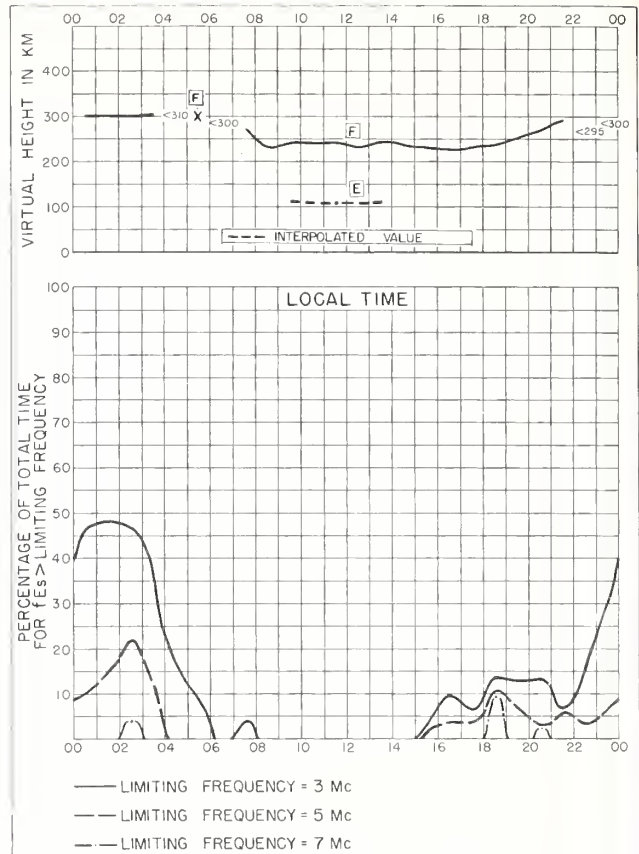
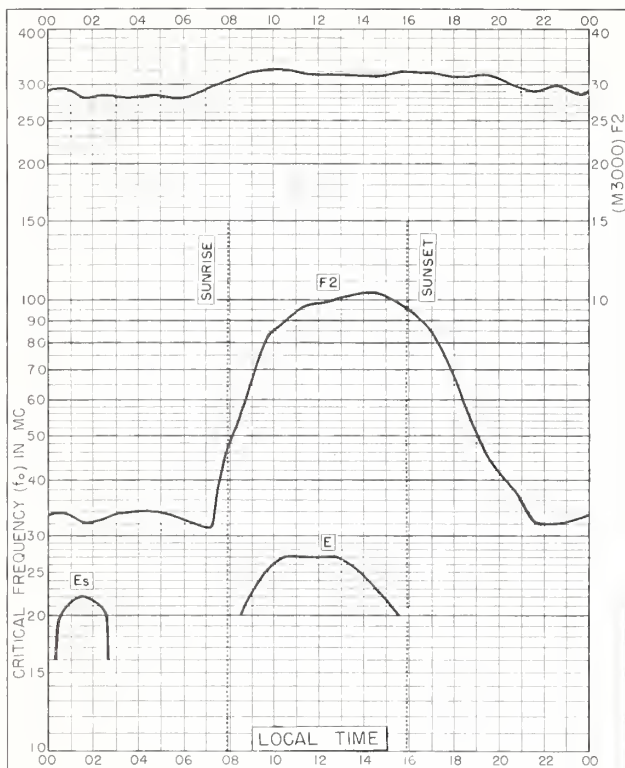


Fig. 28. ADAK, ALASKA

DECEMBER 1960



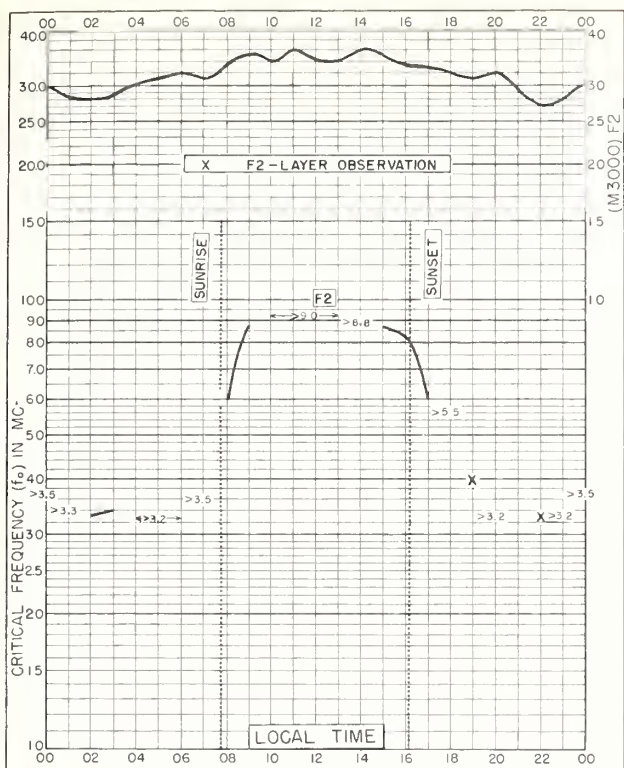


Fig. 33. GRAZ, AUSTRIA
47.1°N, 15.5°E

DECEMBER 1960

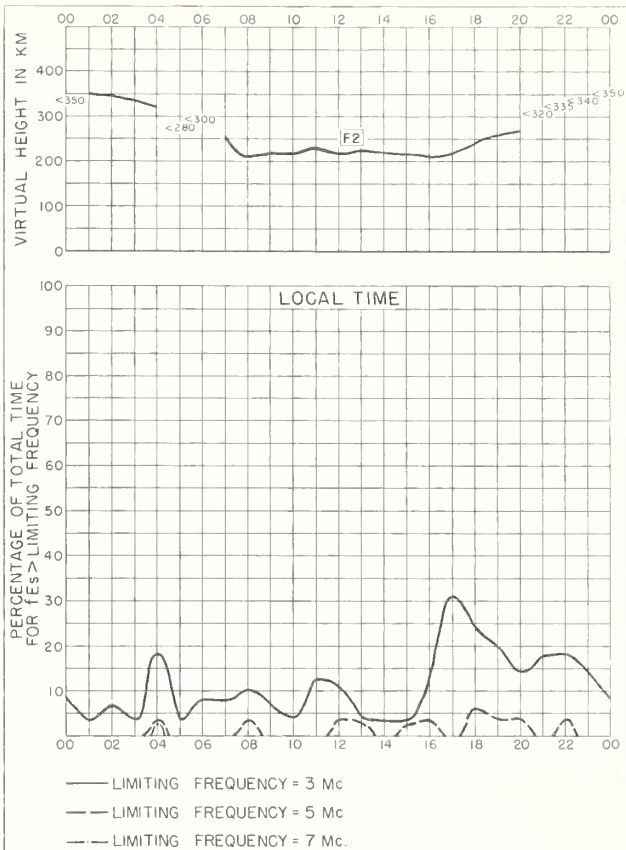


Fig. 34. GRAZ, AUSTRIA

DECEMBER 1960

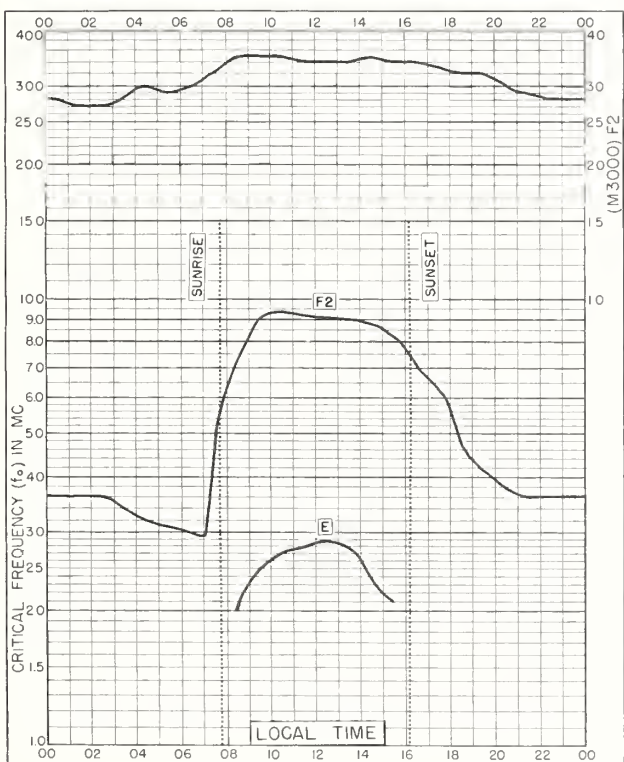


Fig. 35. SOTTENS, SWITZERLAND
46.6°N, 6.7°E

DECEMBER 1960

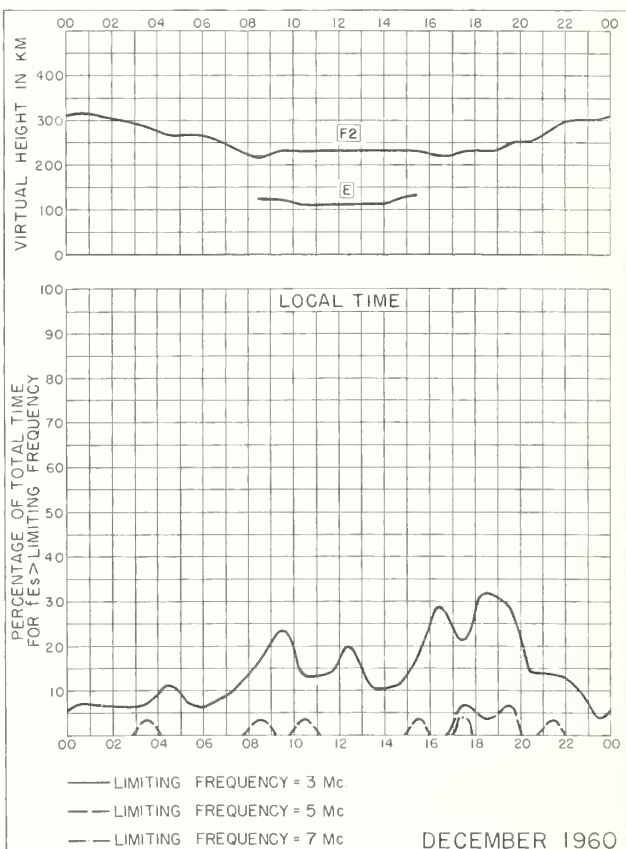


Fig. 36. SOTTENS, SWITZERLAND

DECEMBER 1960

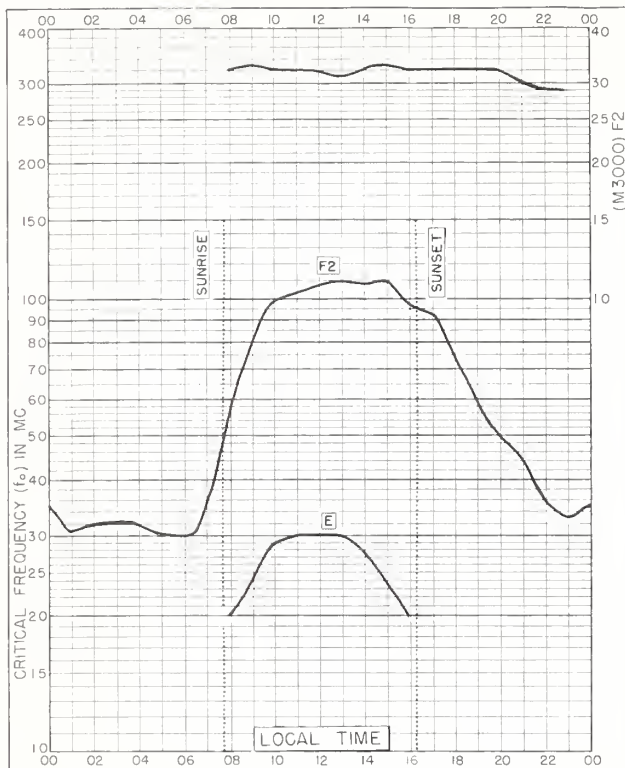


Fig. 37. OTTAWA, CANADA
45.4°N, 75.9°W

DECEMBER 1960

NBS 503

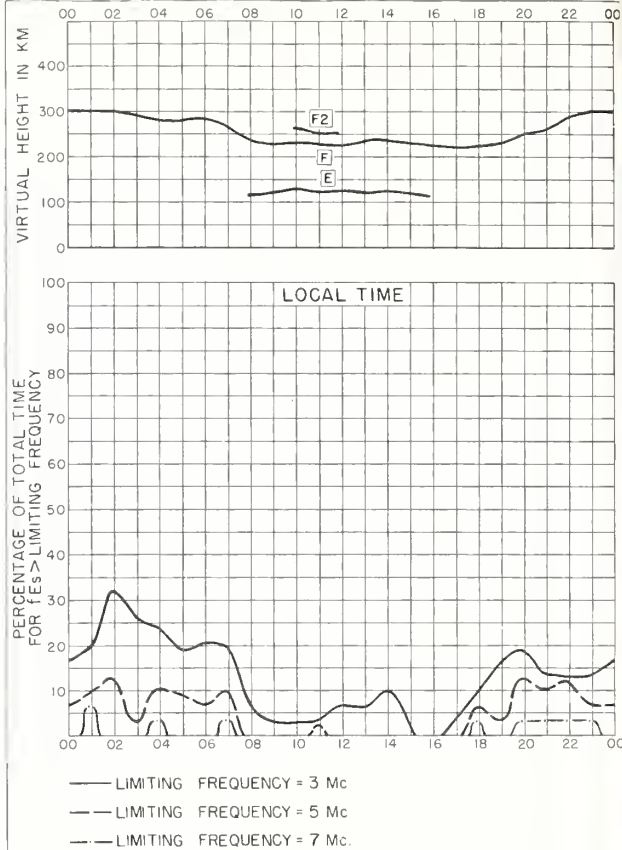


Fig. 38. OTTAWA, CANADA

DECEMBER 1960

NBS 490

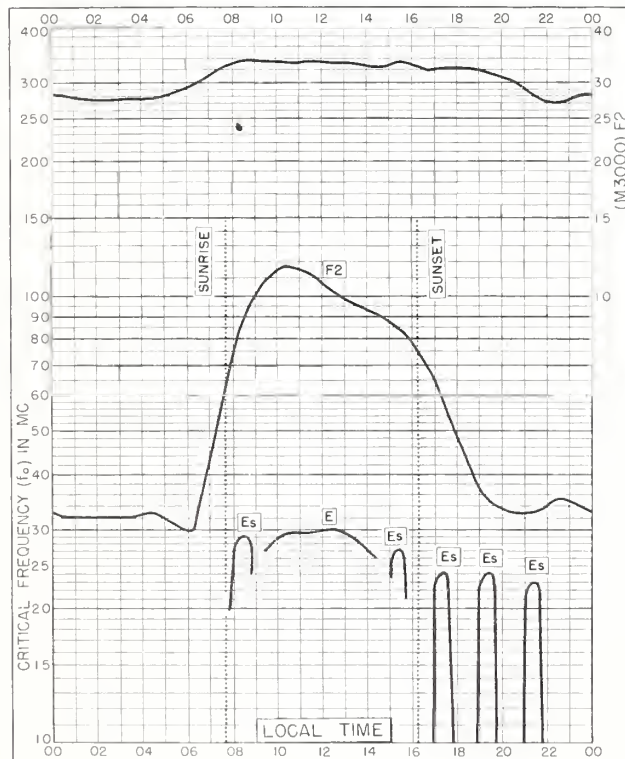


Fig. 39. WAKKANAI, JAPAN
45.4°N, 141.7°E

DECEMBER 1960

NBS 503

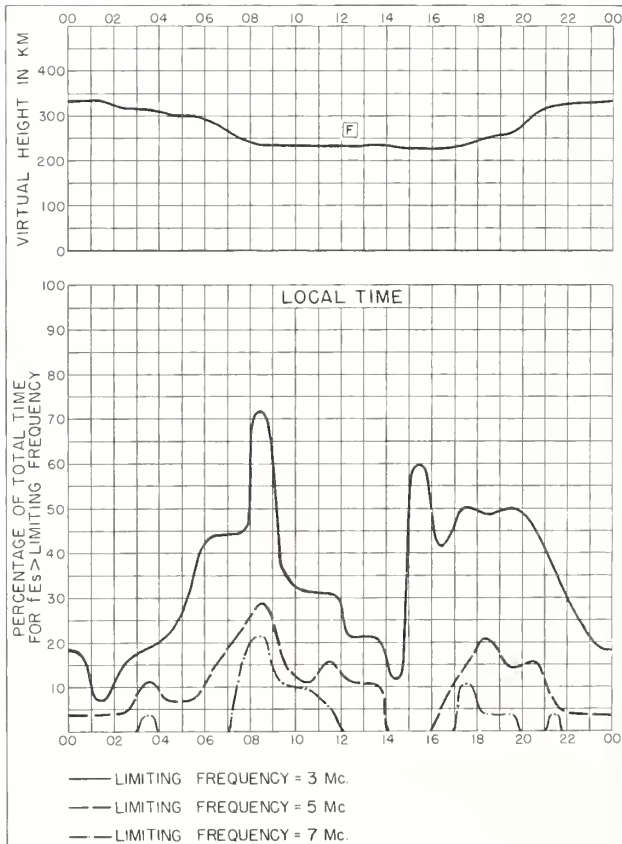


Fig. 40. WAKKANAI, JAPAN

DECEMBER 1960

NBS 490

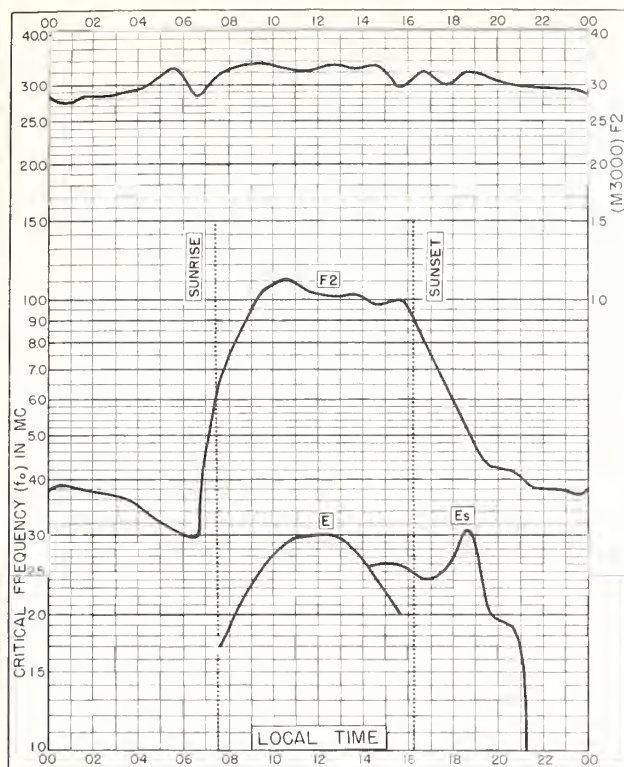


Fig. 41. GENOA (MONTE CAPELLINO), ITALY
44.6°N, 9.0°E DECEMBER 1960

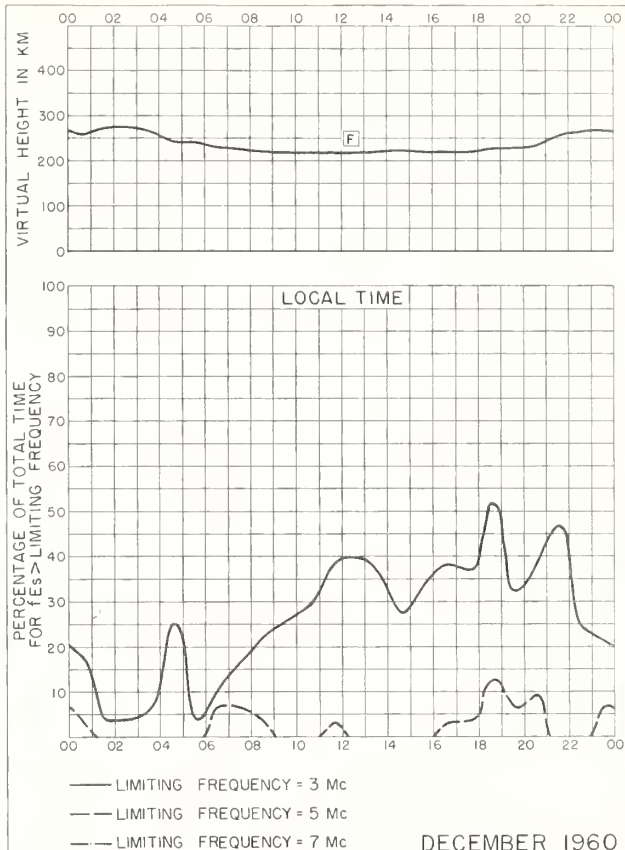


Fig. 42. GENOA (MONTE CAPELLINO), ITALY

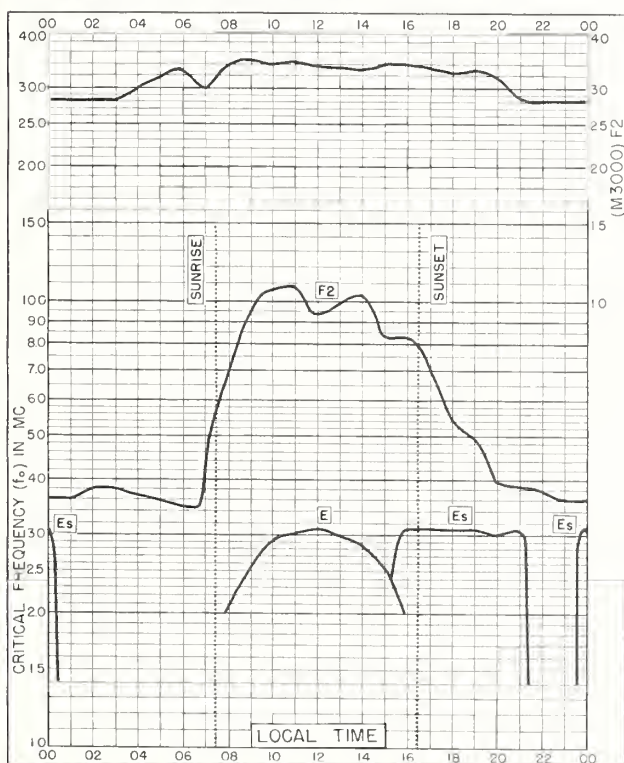


Fig. 43. ROME, ITALY
41.8°N, 12.5°E DECEMBER 1960

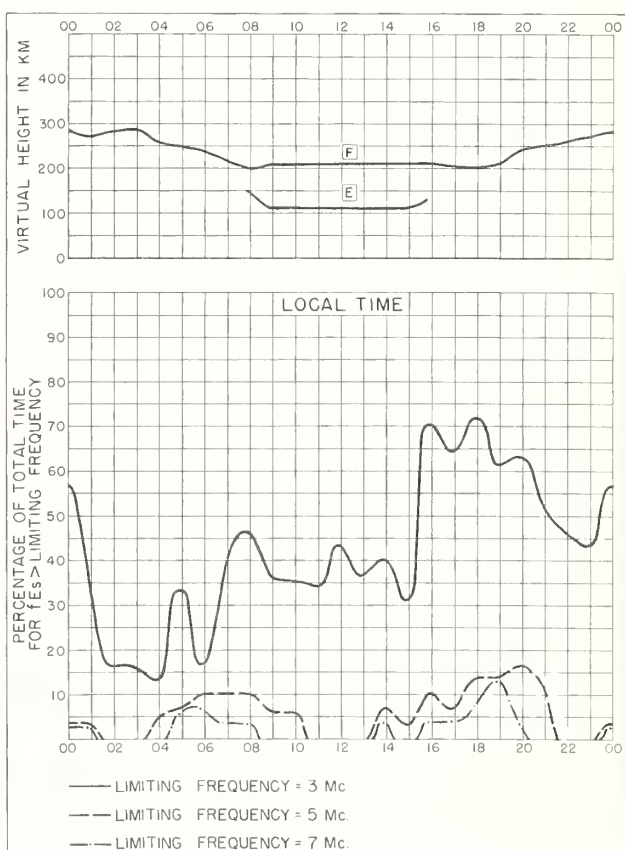


Fig. 44. ROME, ITALY DECEMBER 1960

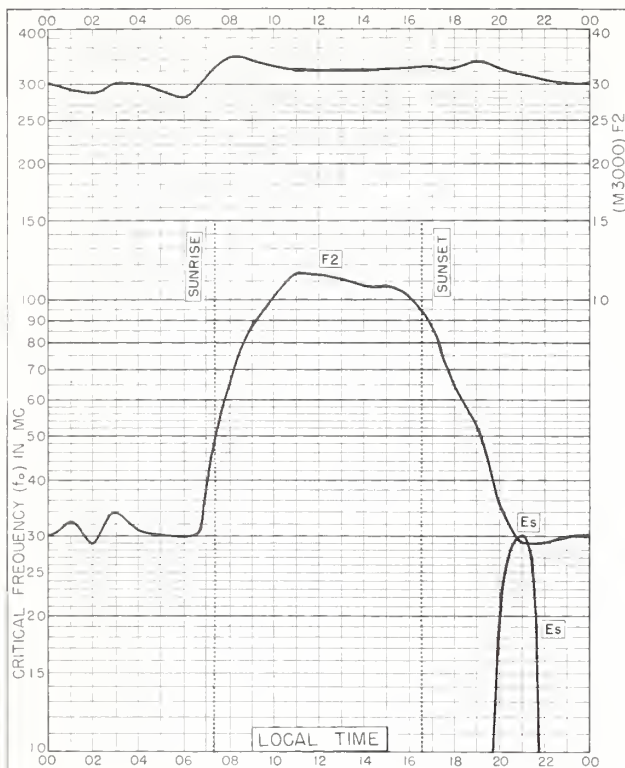


Fig. 45. BOULDER, COLORADO
40.0°N, 105.3°W DECEMBER 1960

NBS 503

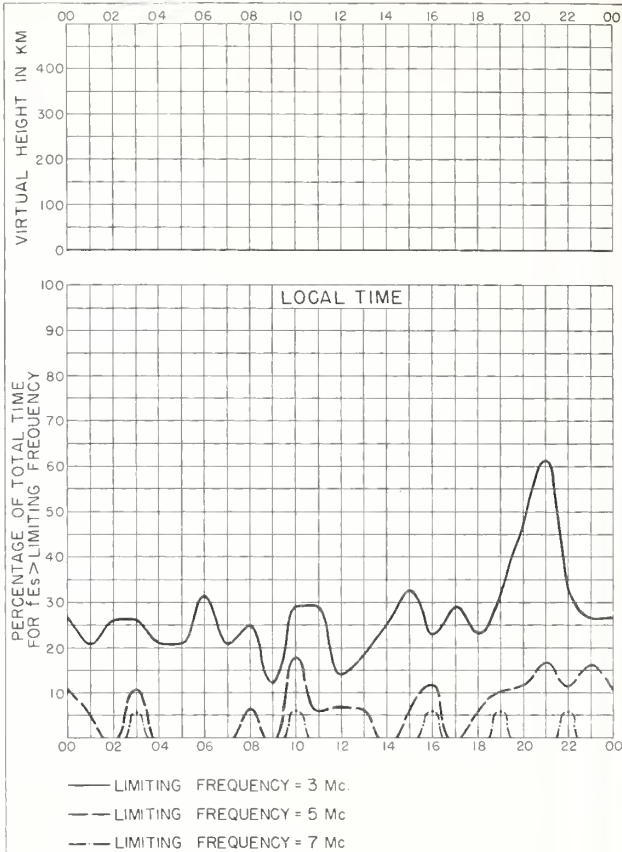


Fig. 46. BOULDER, COLORADO DECEMBER 1960

NBS 490



Fig. 47. AKITA, JAPAN
39.7°N, 140.1°E DECEMBER 1960

NBS 515

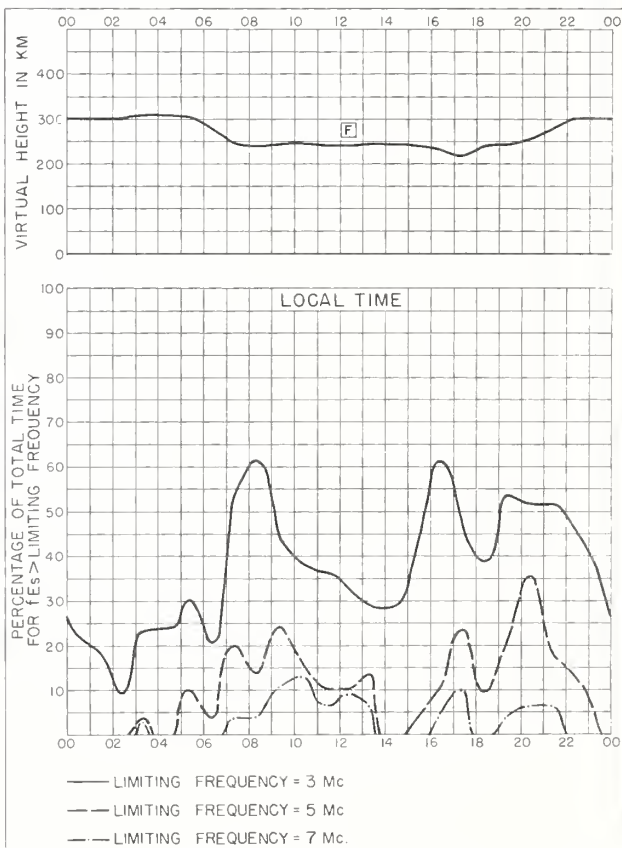
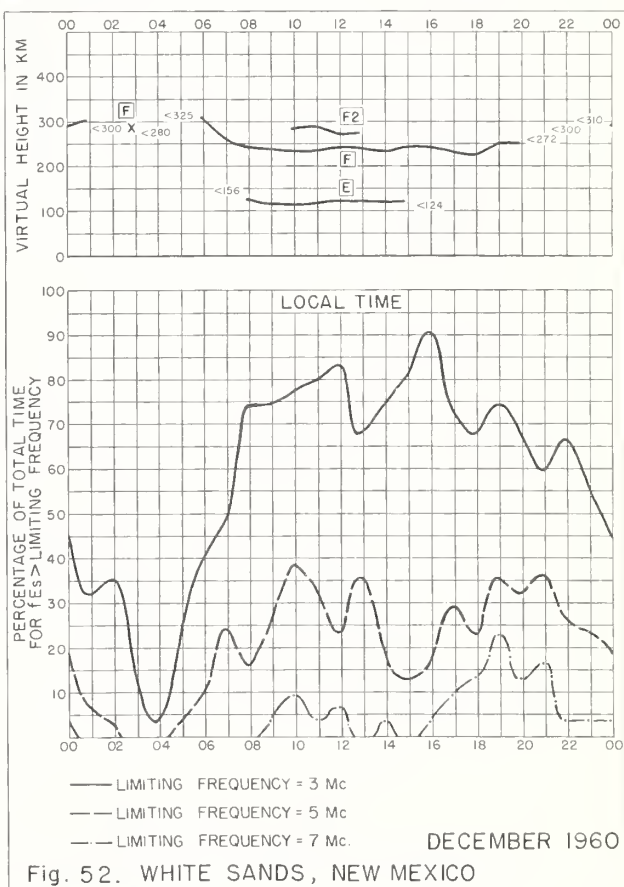
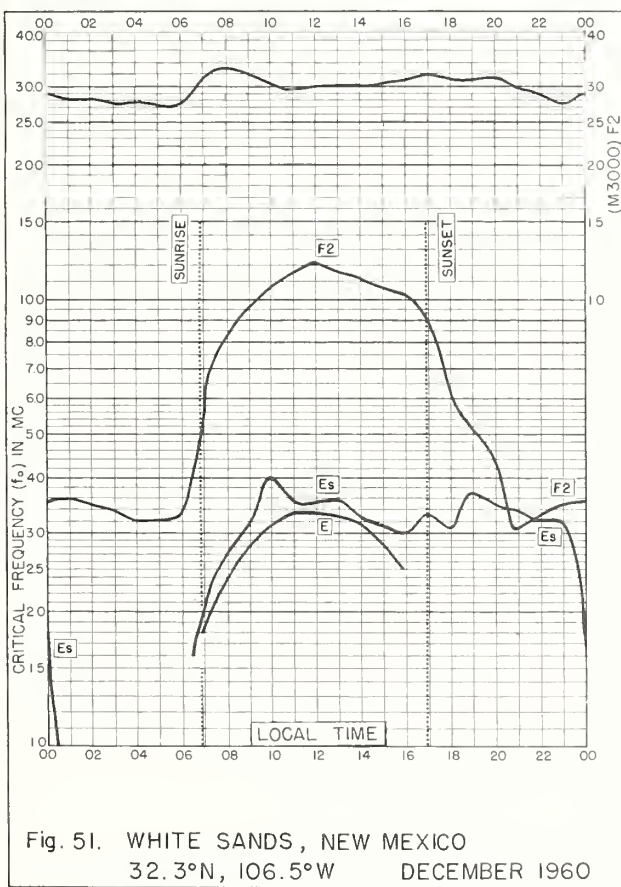
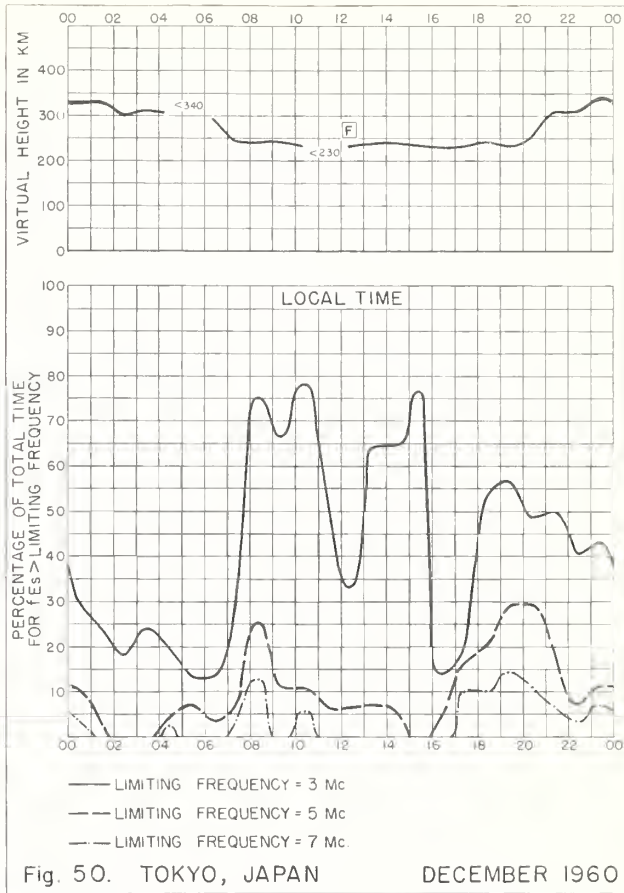
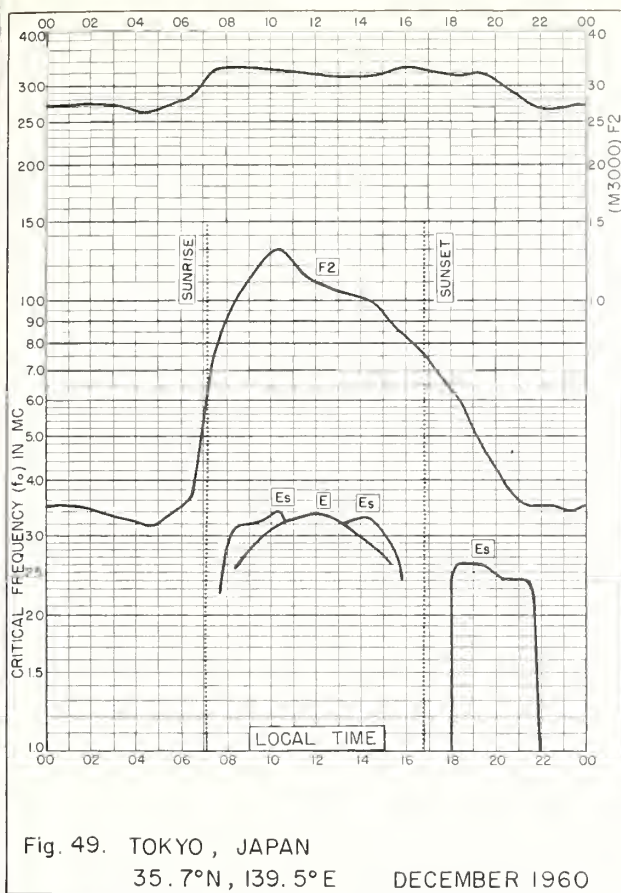


Fig. 48. AKITA, JAPAN DECEMBER 1960

NBS 490



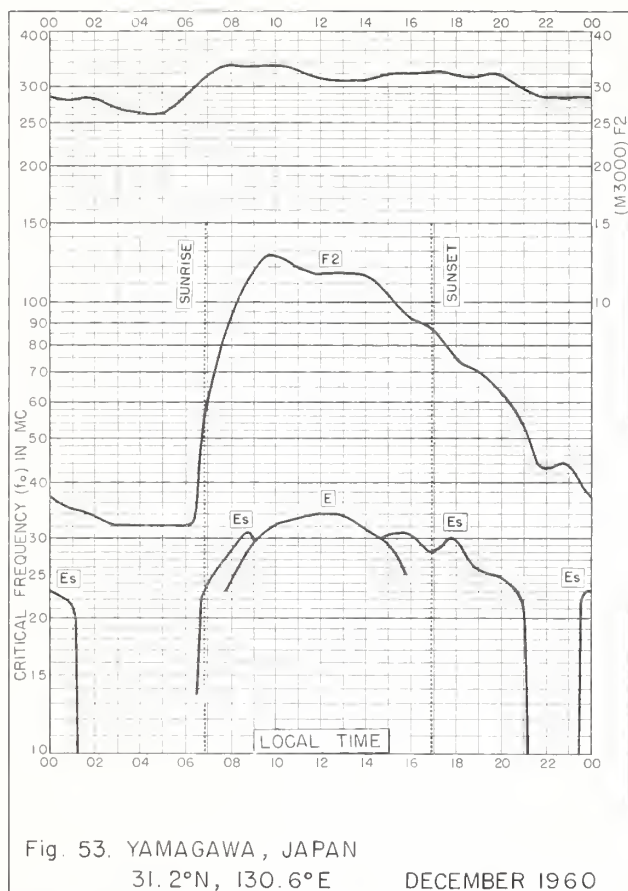


Fig. 53. YAMAGAWA, JAPAN
31.2°N, 130.6°E

DECEMBER 1960

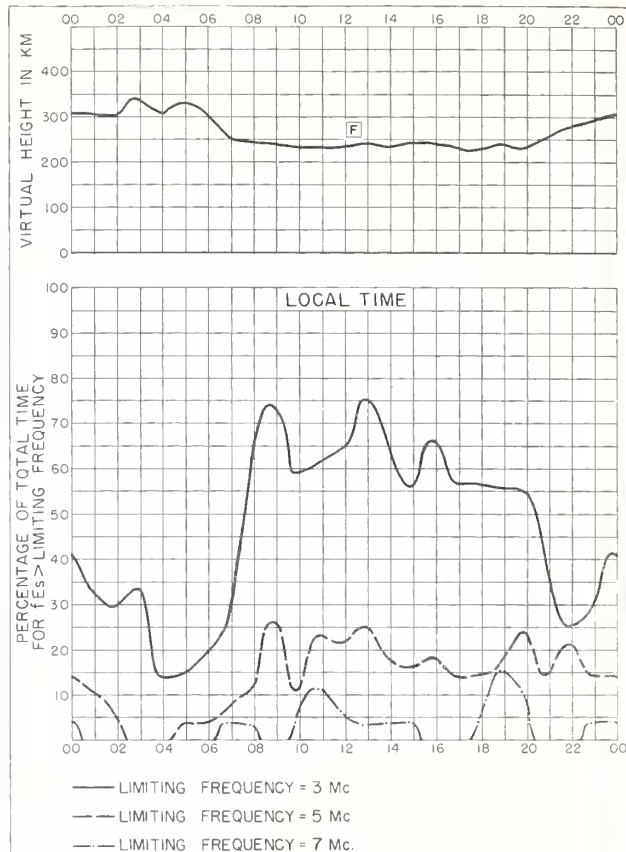


Fig. 54. YAMAGAWA, JAPAN

DECEMBER 1960

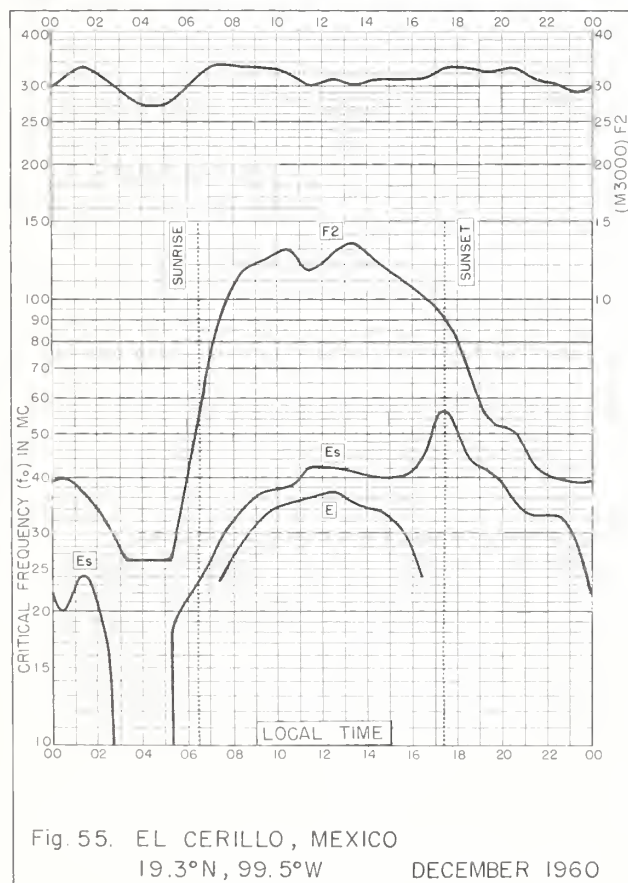


Fig. 55. EL CERILLO, MEXICO
19.3°N, 99.5°W

DECEMBER 1960

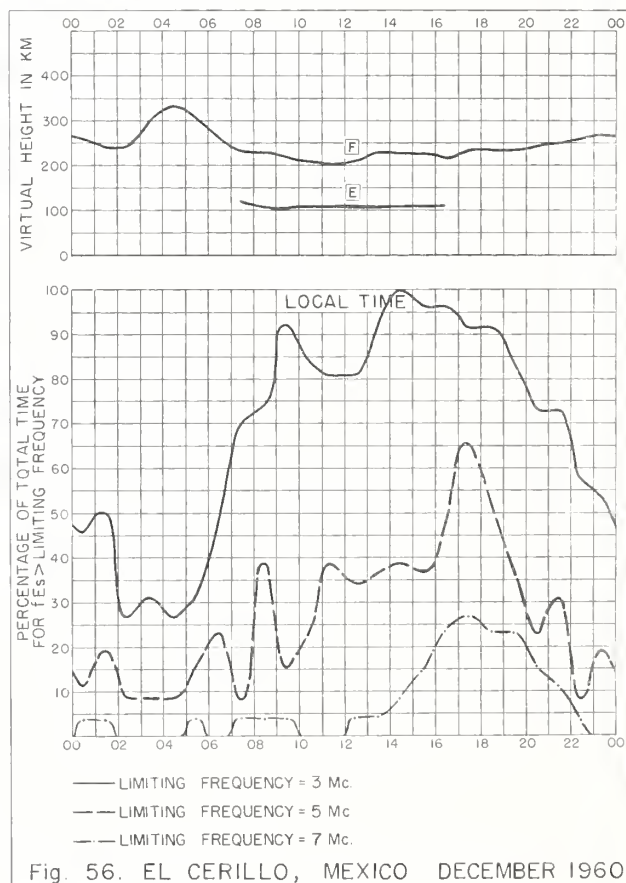


Fig. 56. EL CERILLO, MEXICO

DECEMBER 1960

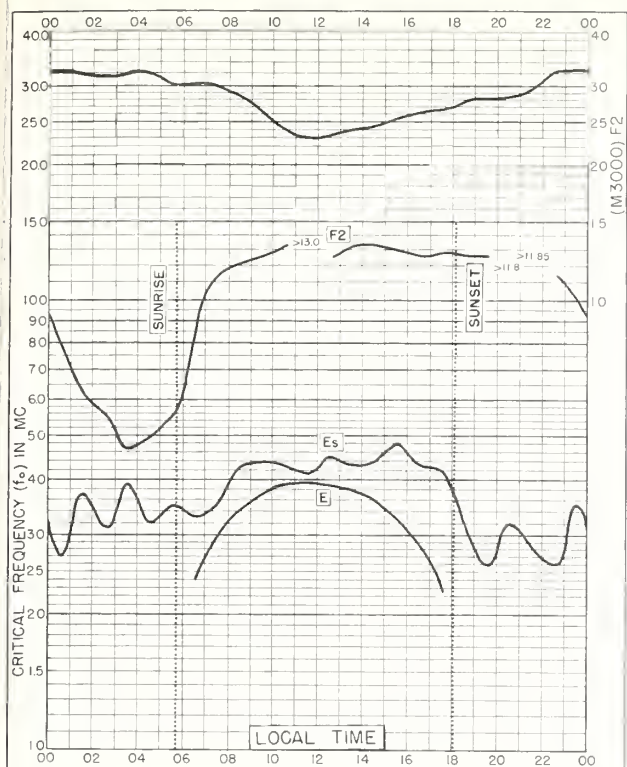


Fig. 57. TALARA, PERU
4.6°S, 81.3°W

DECEMBER 1960

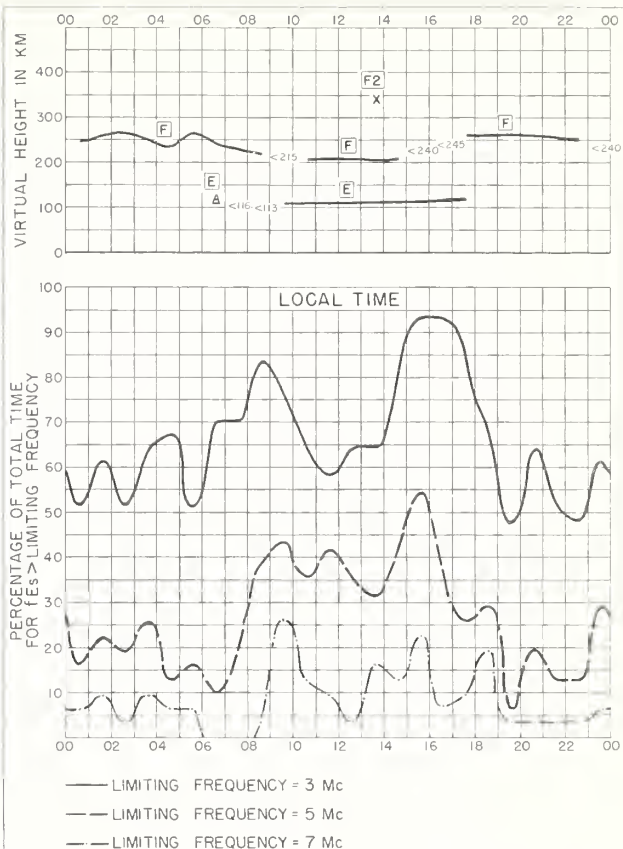


Fig. 58. TALARA, PERU

DECEMBER 1960

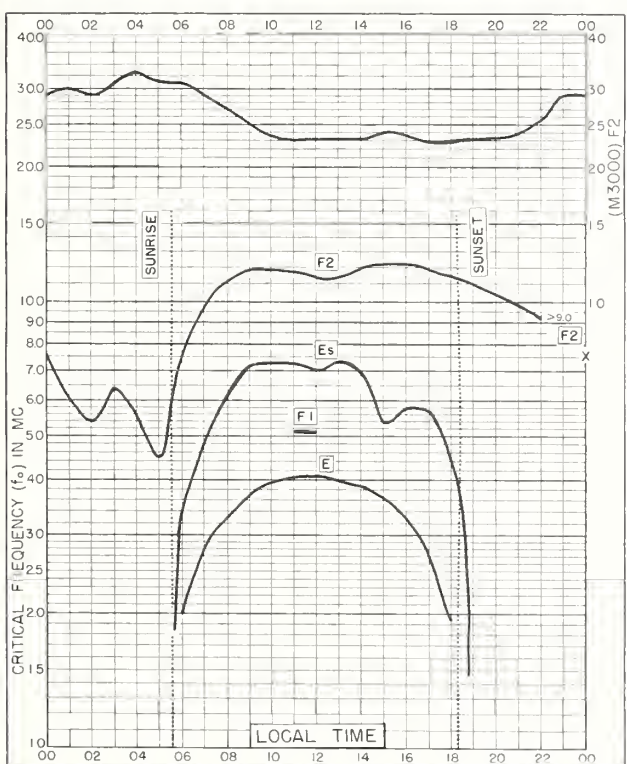


Fig. 59. HUANCAYO, PERU
12.0°S, 75.3°W

DECEMBER 1960

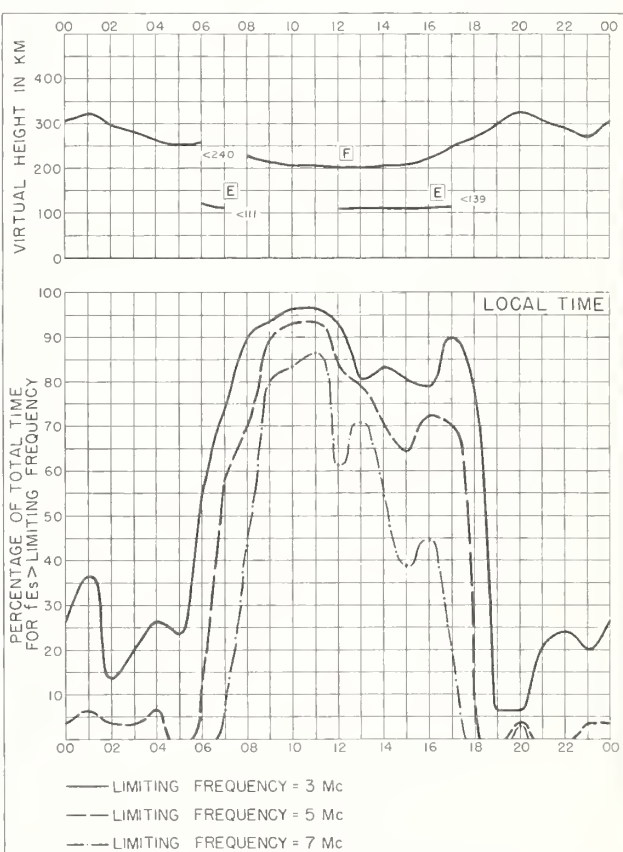


Fig. 60. HUANCAYO, PERU

DECEMBER 1960



Fig. 61. THULE, GREENLAND
76.0°N, 68.0°W NOVEMBER 1960

NBS 503

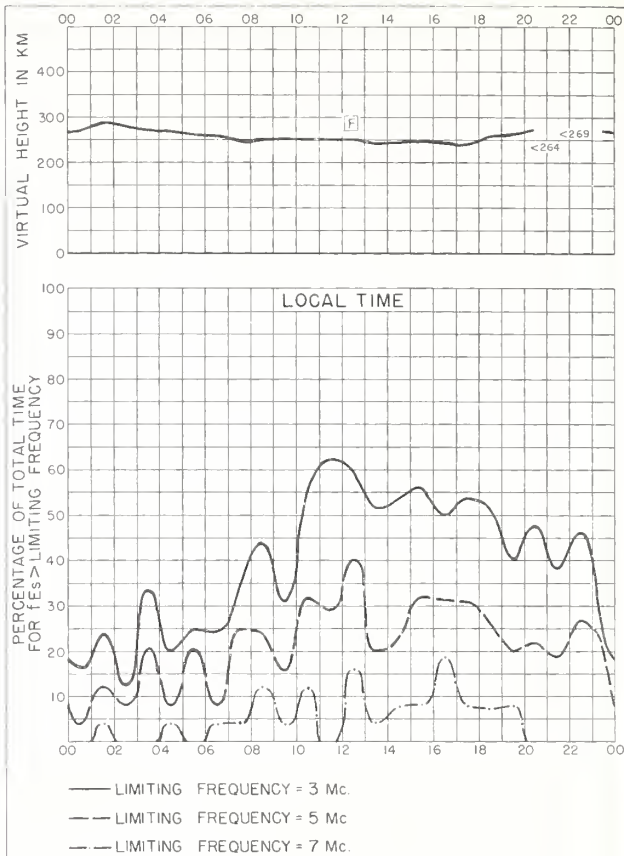


Fig. 62. THULE, GREENLAND NOVEMBER 1960

NBS 490

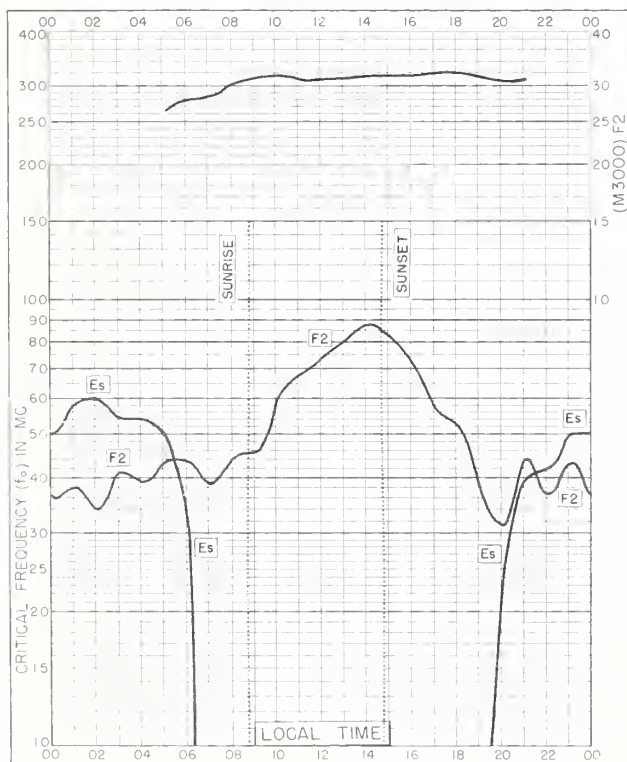


Fig. 63. FAIRBANKS, ALASKA
64.9°N, 147.8°W NOVEMBER 1960

NBS 503

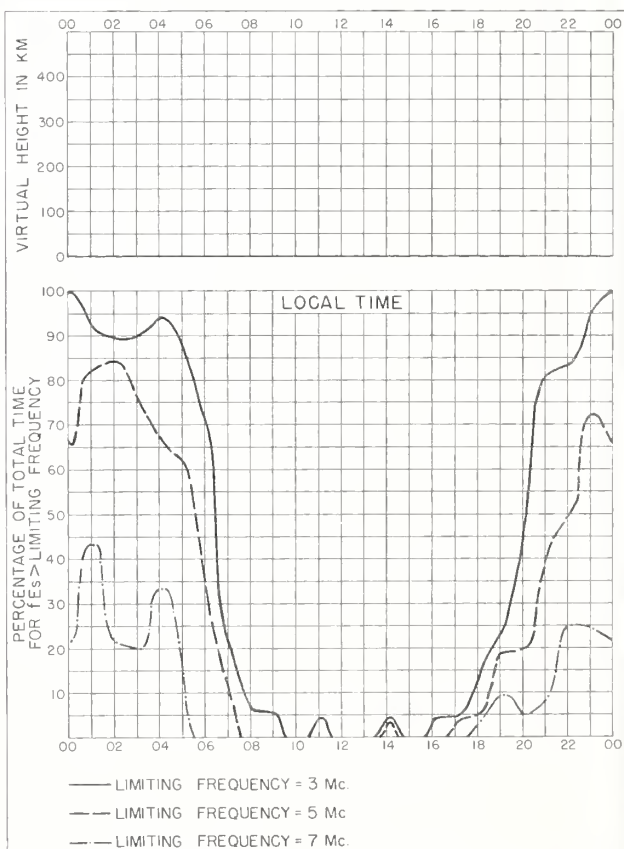


Fig. 64. FAIRBANKS, ALASKA NOVEMBER 1960

NBS 490

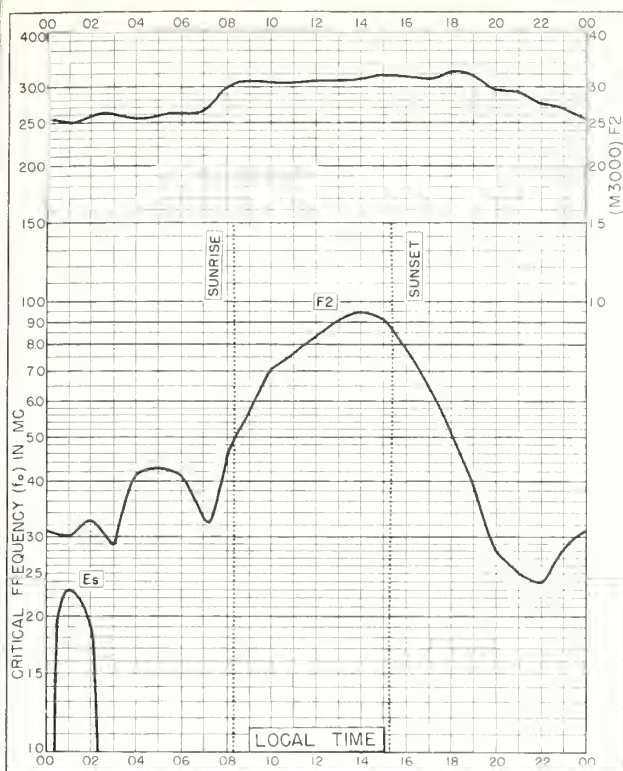


Fig. 65. ANCHORAGE, ALASKA
61.2°N, 149.9°W NOVEMBER 1960

NBS 503

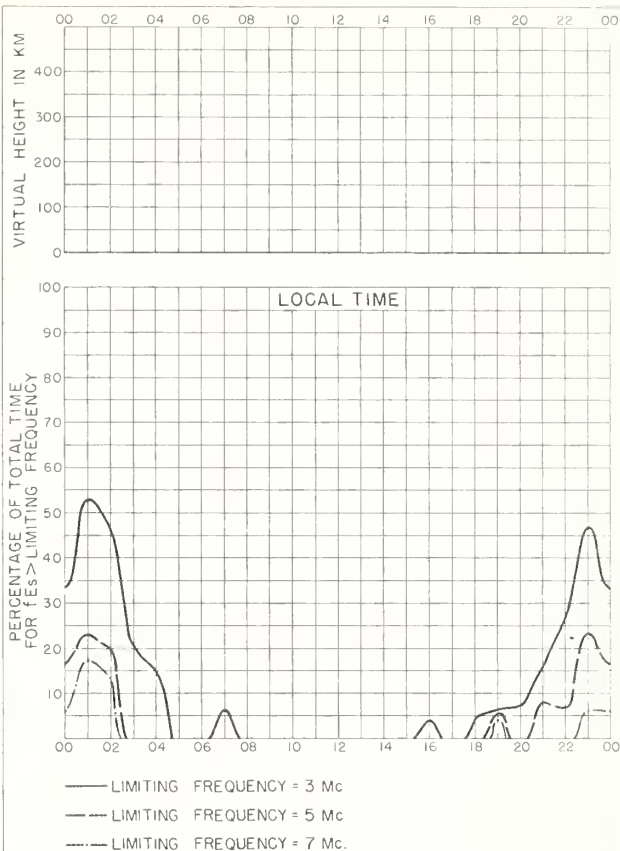


Fig. 66. ANCHORAGE, ALASKA NOVEMBER 1960

NBS 490

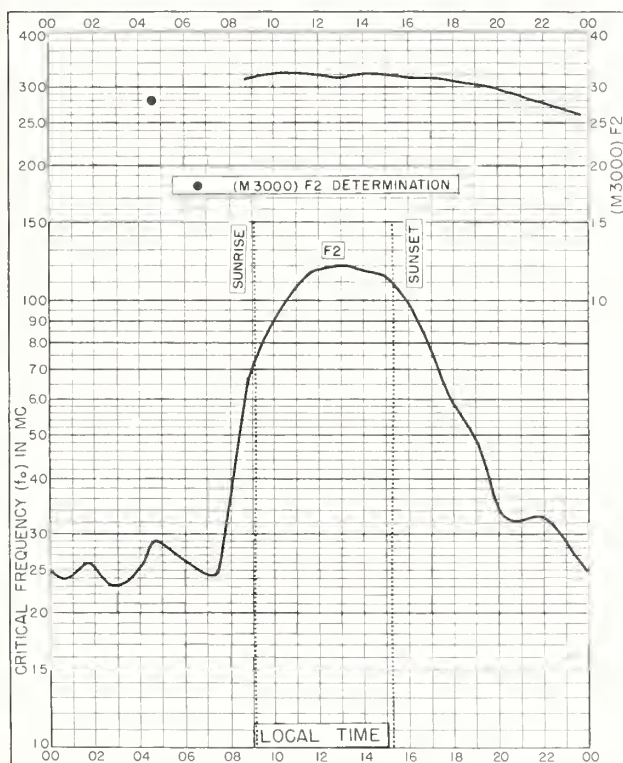


Fig. 67. NURMIJARVI, FINLAND
60.5°N, 24.6°E JANUARY 1960

NBS 503

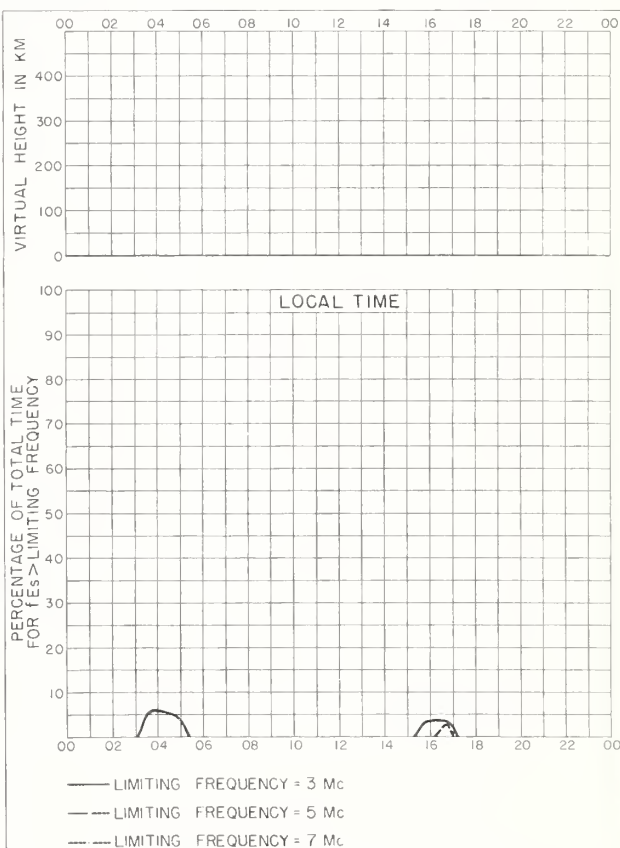


Fig. 68. NURMIJARVI, FINLAND JANUARY 1960

NBS 491

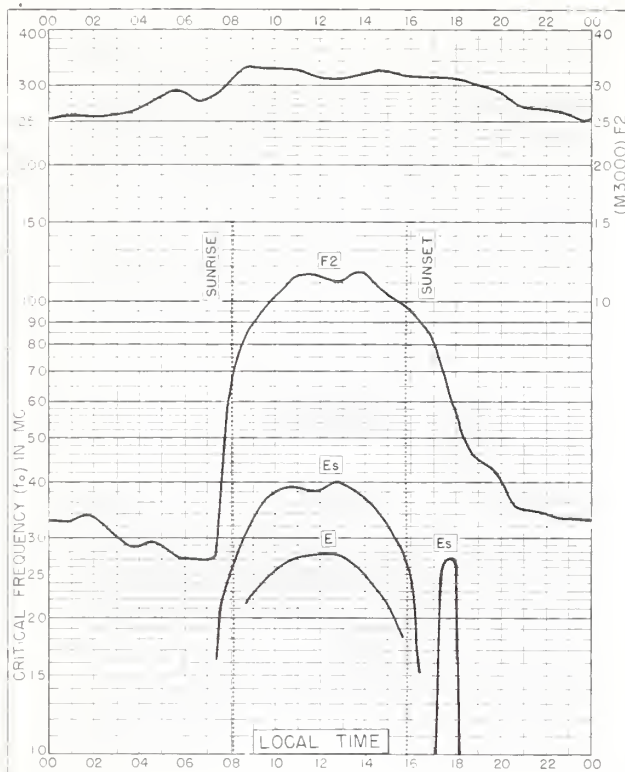


Fig. 69. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E
DECEMBER 1959

NBS 1-03

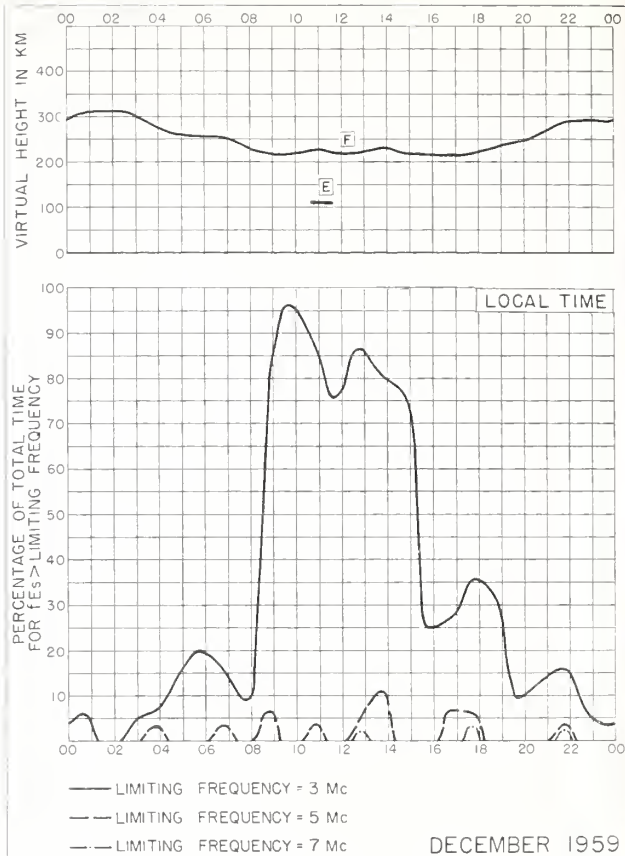


Fig. 70. LINDAU/HARZ, GERMANY

DECEMBER 1959

NBS 490

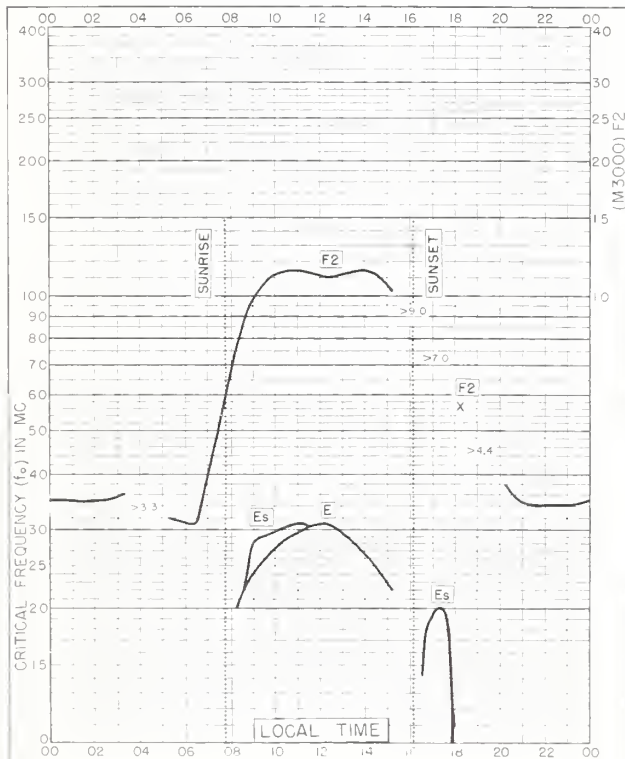


Fig. 71. BUDAPEST, HUNGARY
47.4°N, 19.2°E
DECEMBER 1959

NBS 1-13

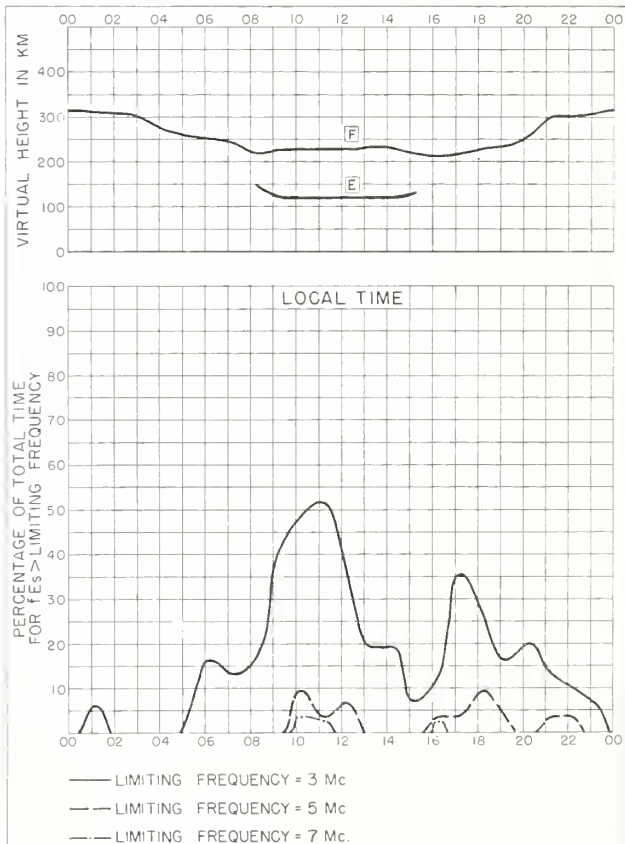


Fig. 72. BUDAPEST, HUNGARY
DECEMBER 1959

NBS 490

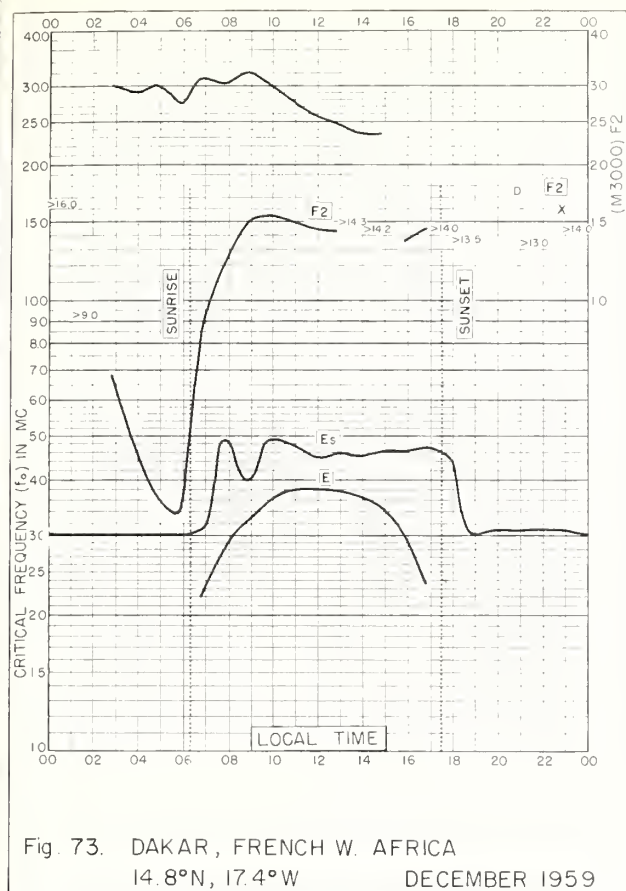


Fig. 73. DAKAR, FRENCH W. AFRICA
14.8°N, 17.4°W
DECEMBER 1959

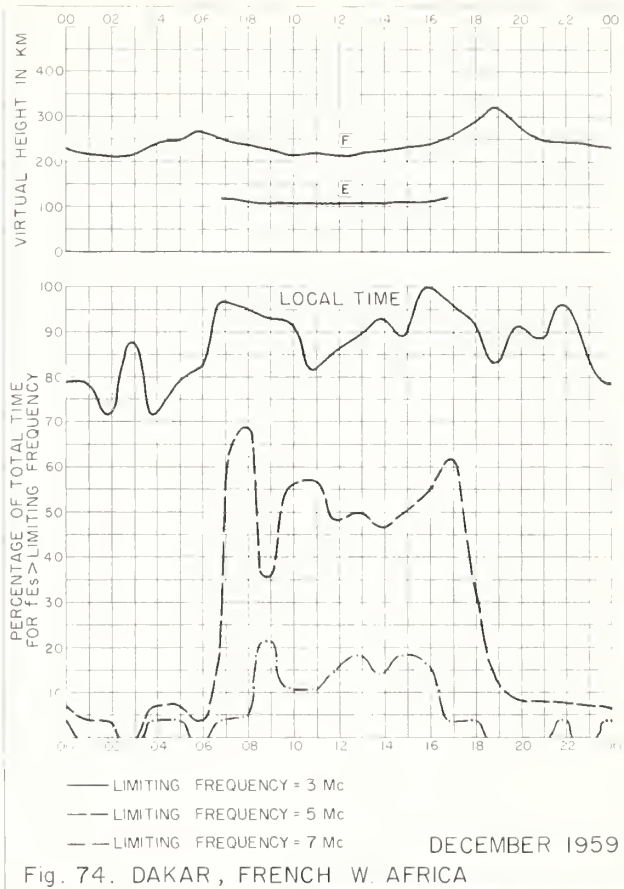


Fig. 74. DAKAR, FRENCH W. AFRICA

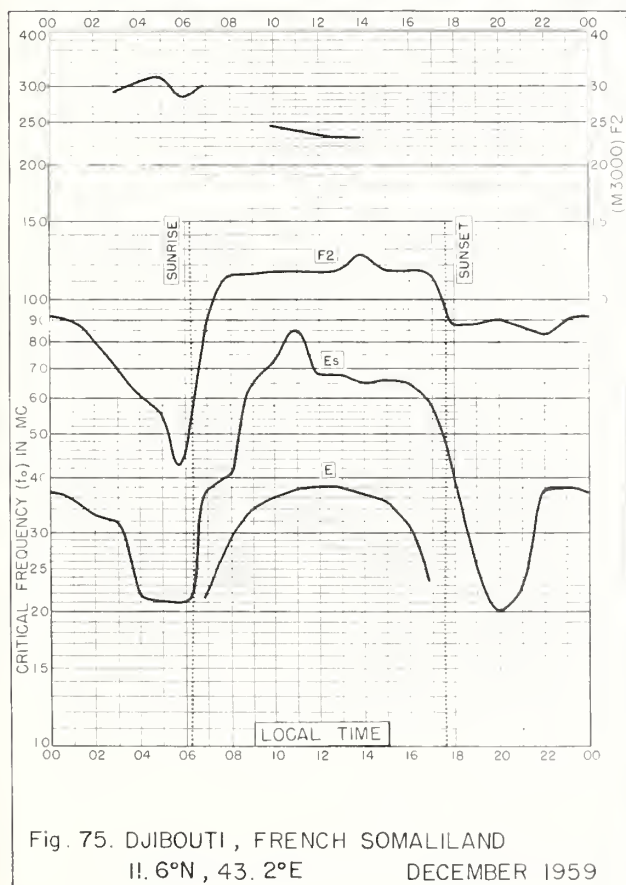


Fig. 75. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E
DECEMBER 1959

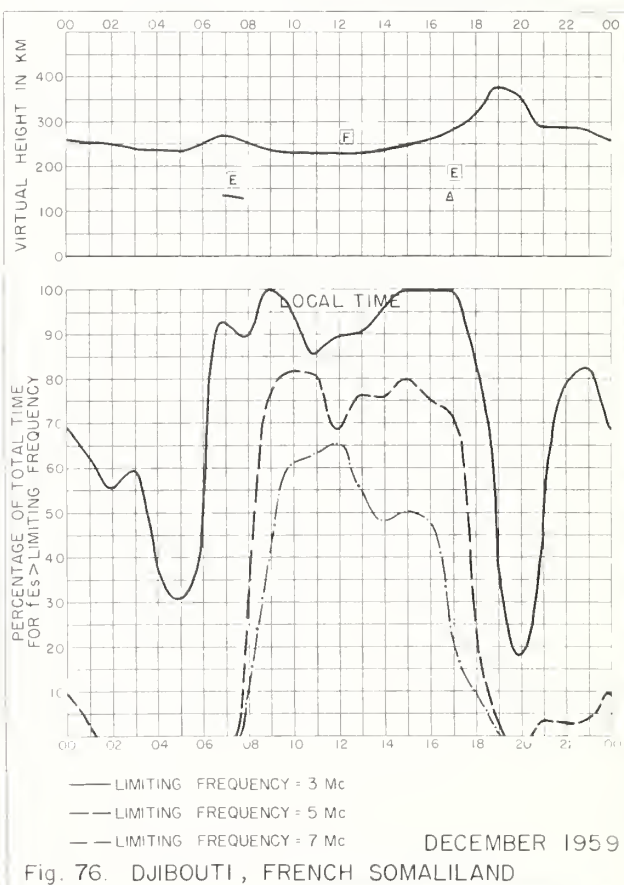
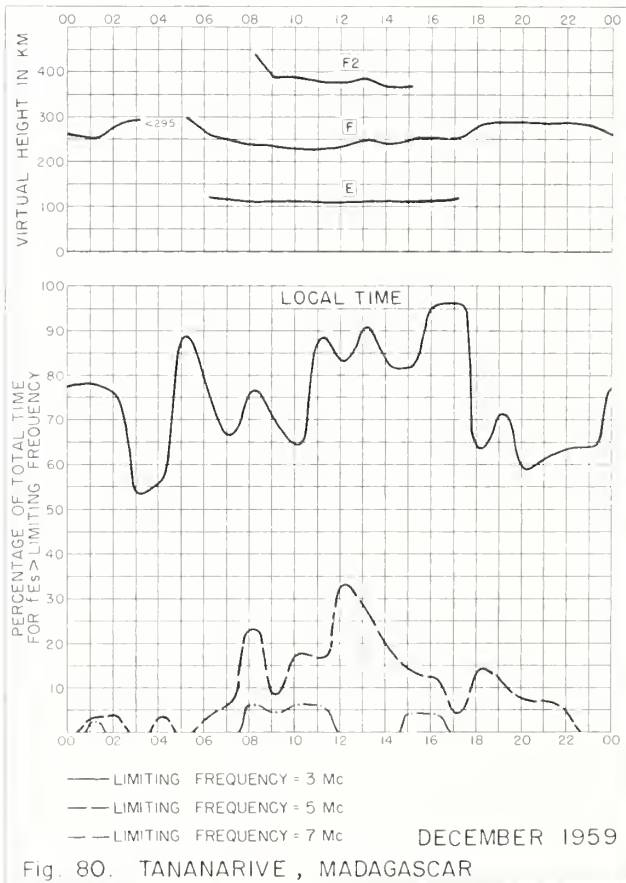
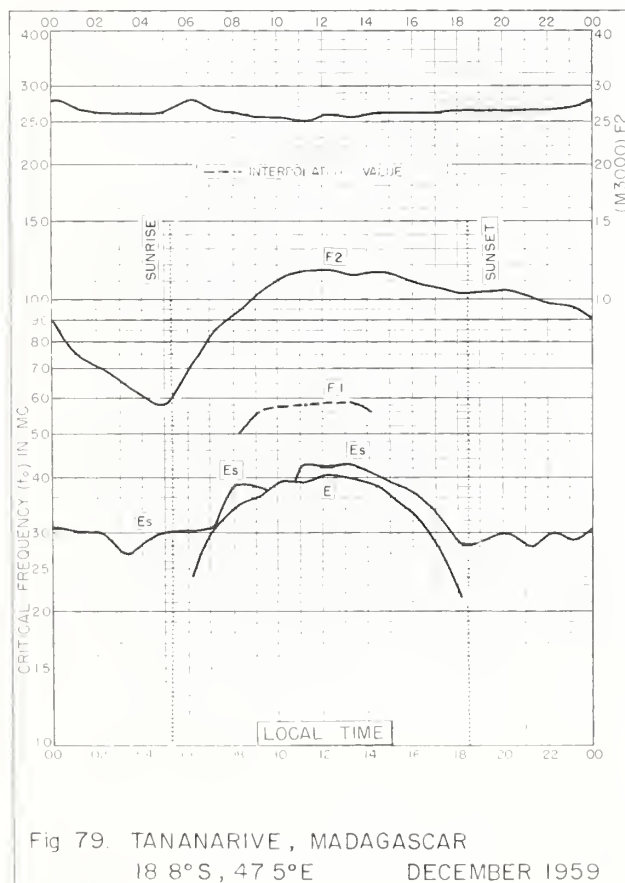
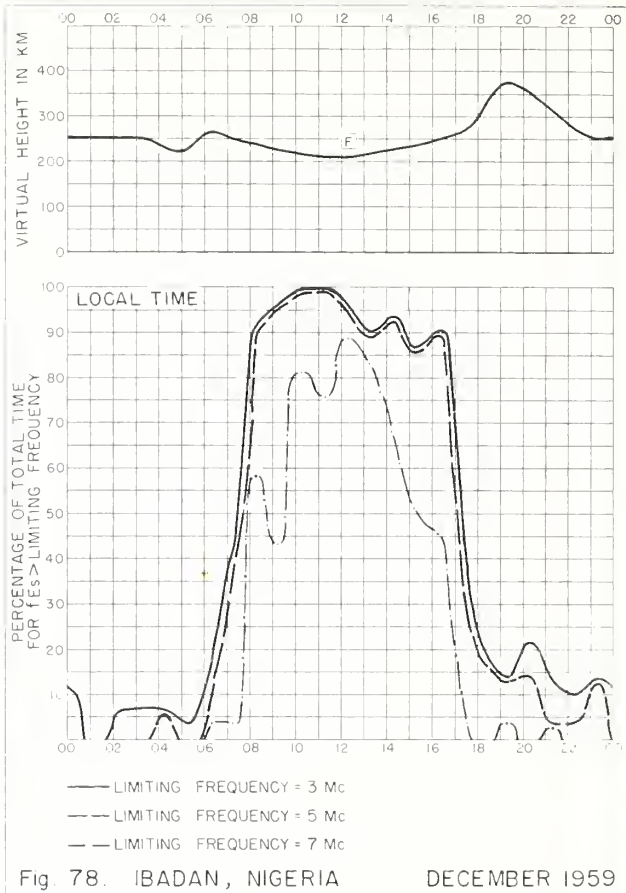
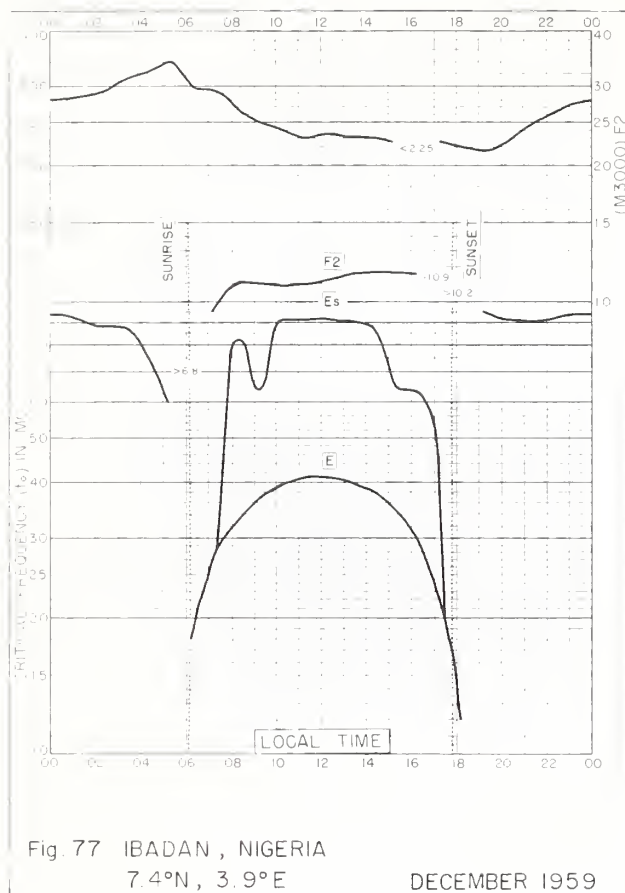


Fig. 76. DJIBOUTI, FRENCH SOMALILAND



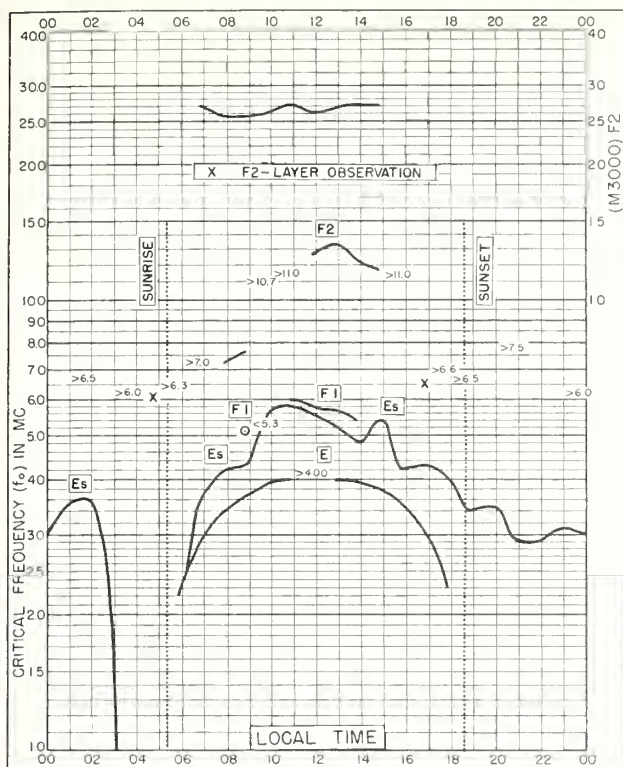


Fig. 81. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E DECEMBER 1959

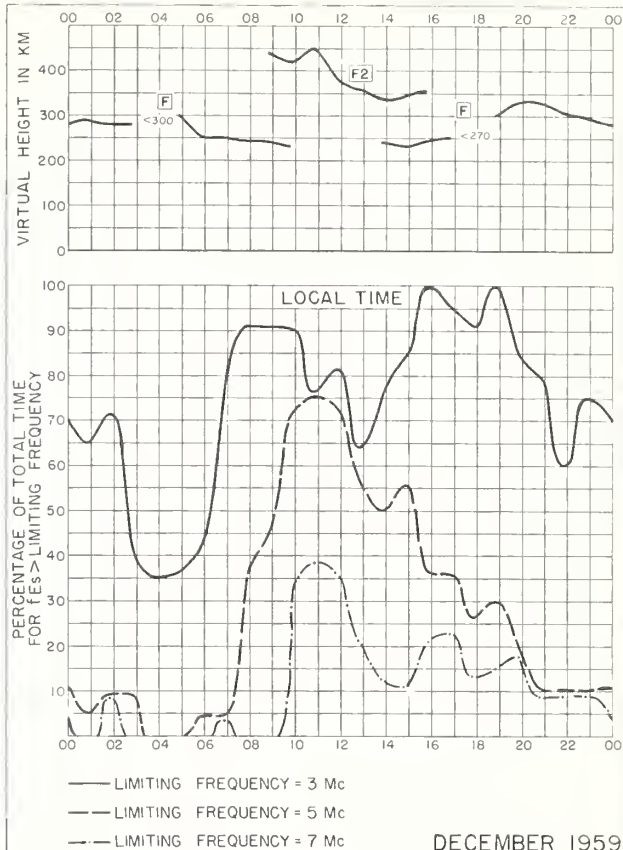


Fig. 82. TOWNSVILLE, AUSTRALIA

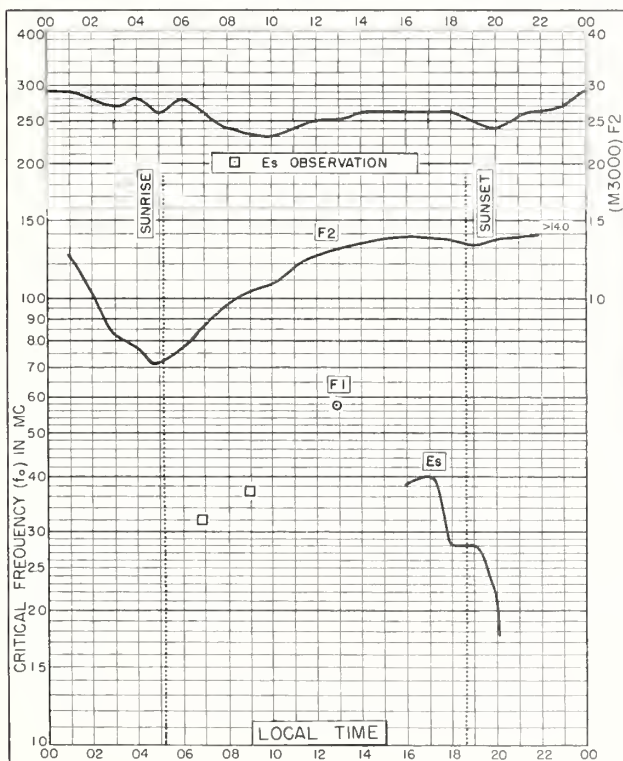


Fig. 83. SAO PAULO, BRAZIL
23.5°S, 46.5°W DECEMBER 1959

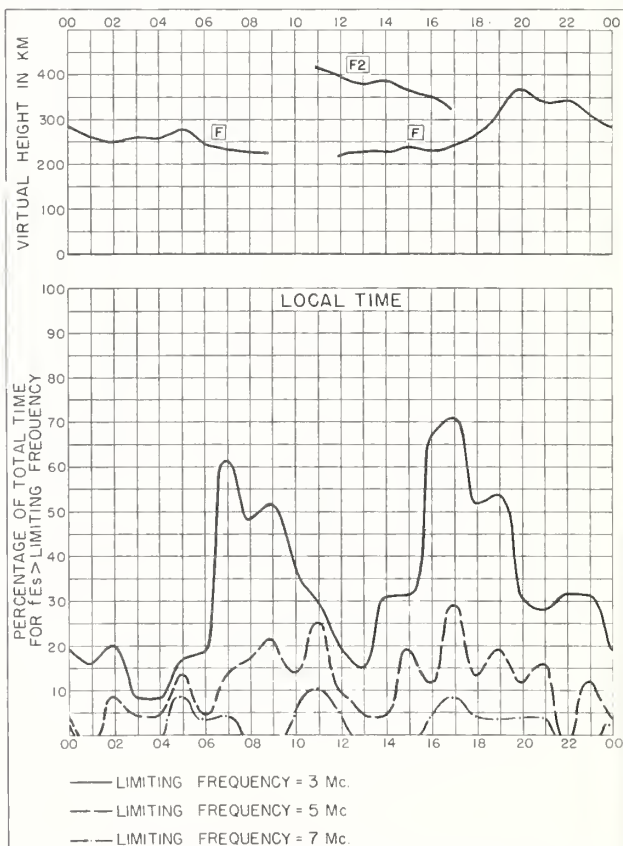


Fig. 84. SAO PAULO, BRAZIL DECEMBER 1959

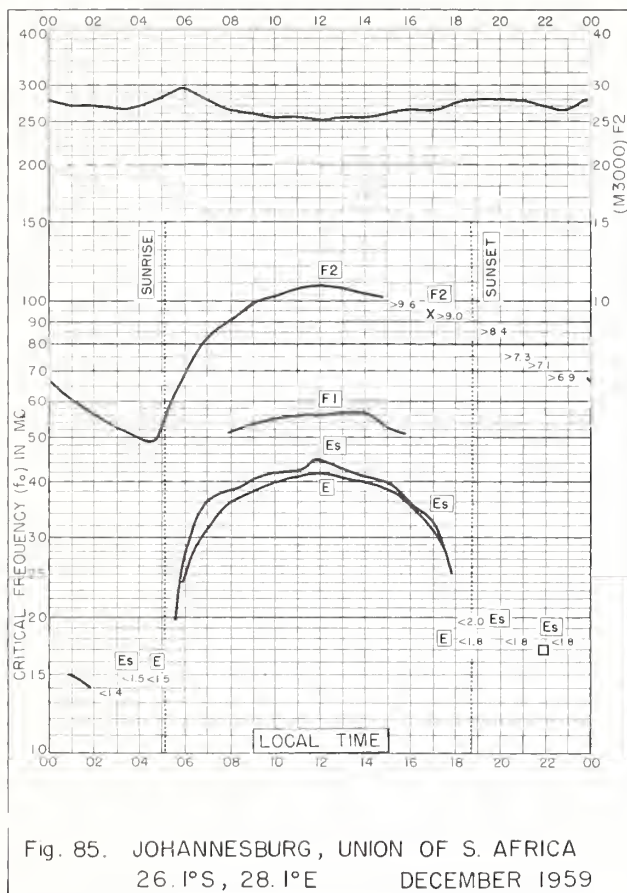


Fig. 85. JOHANNESBURG, UNION OF S. AFRICA
26.1°S, 28.1°E
DECEMBER 1959

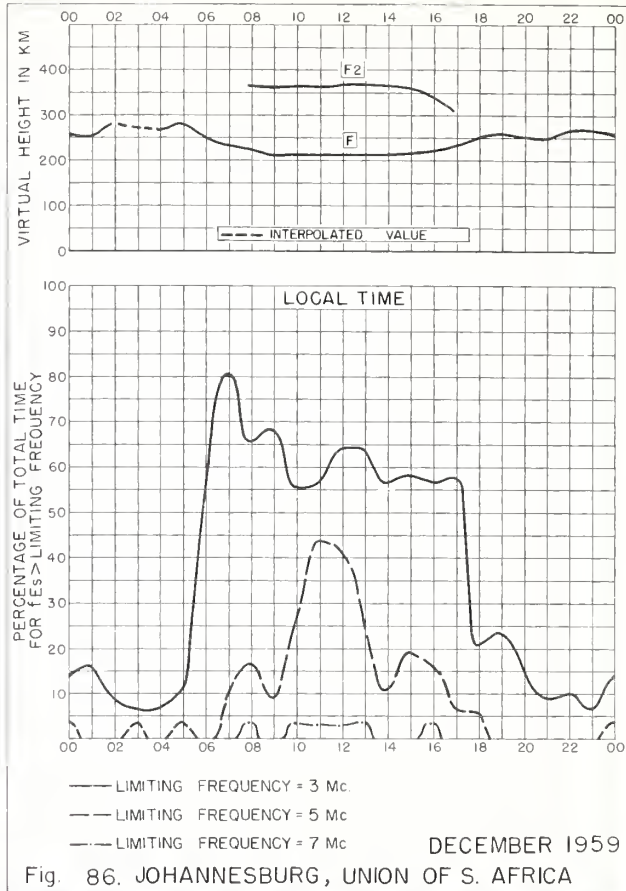


Fig. 86. JOHANNESBURG, UNION OF S. AFRICA

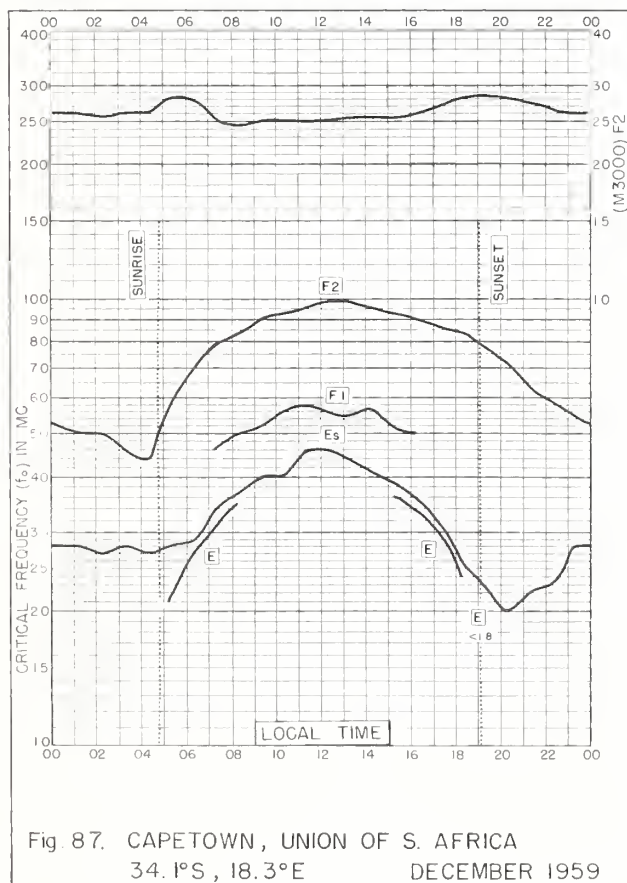


Fig. 87. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E
DECEMBER 1959

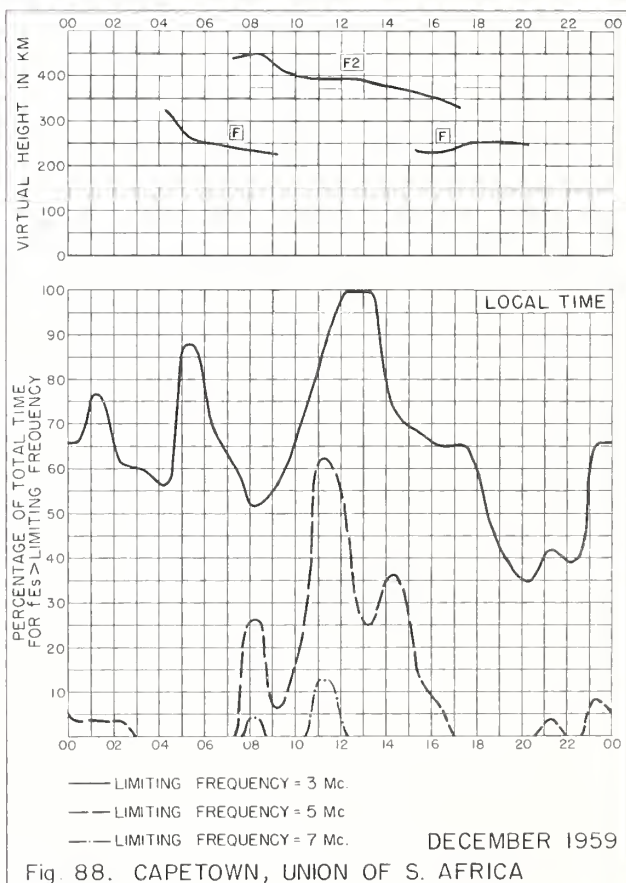


Fig. 88. CAPETOWN, UNION OF S. AFRICA

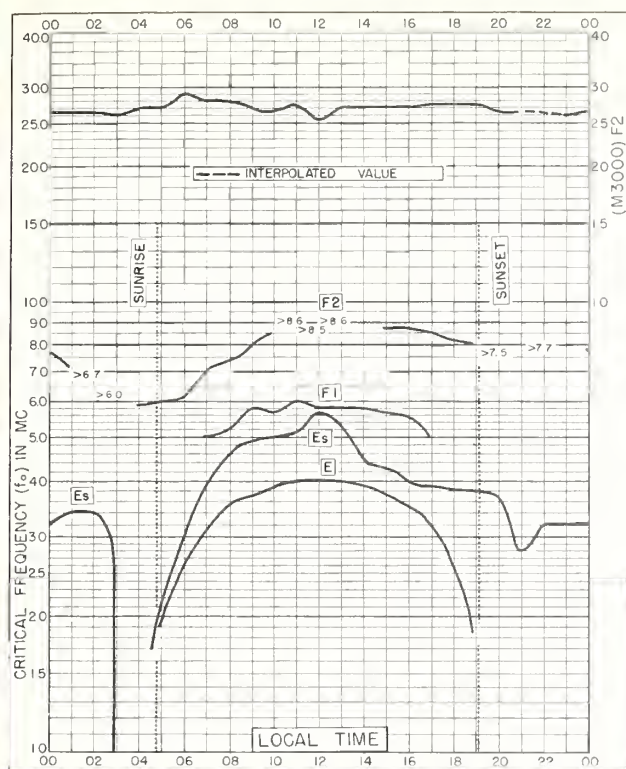


Fig. 89. CANBERRA, AUSTRALIA
35.3°S, 149.0°E DECEMBER 1959

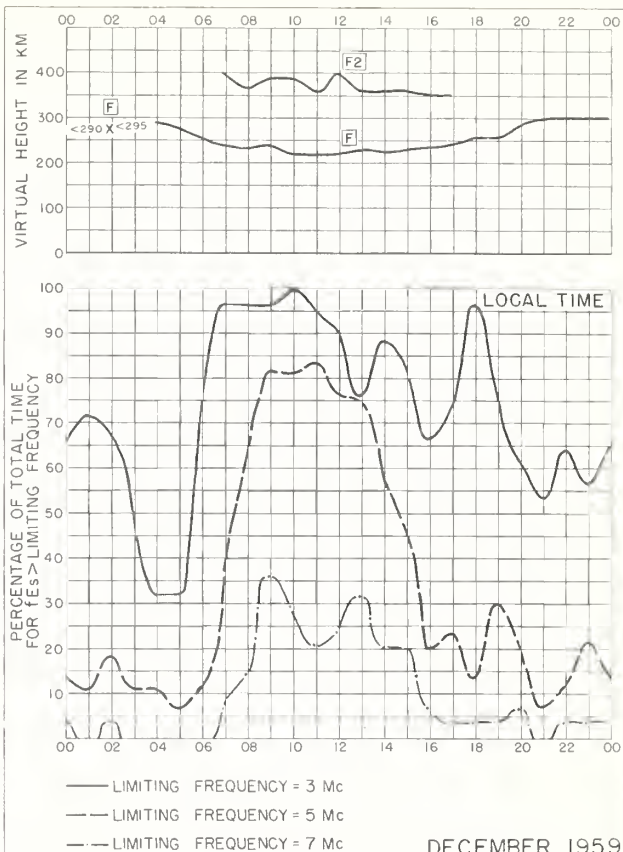


Fig. 90. CANBERRA, AUSTRALIA

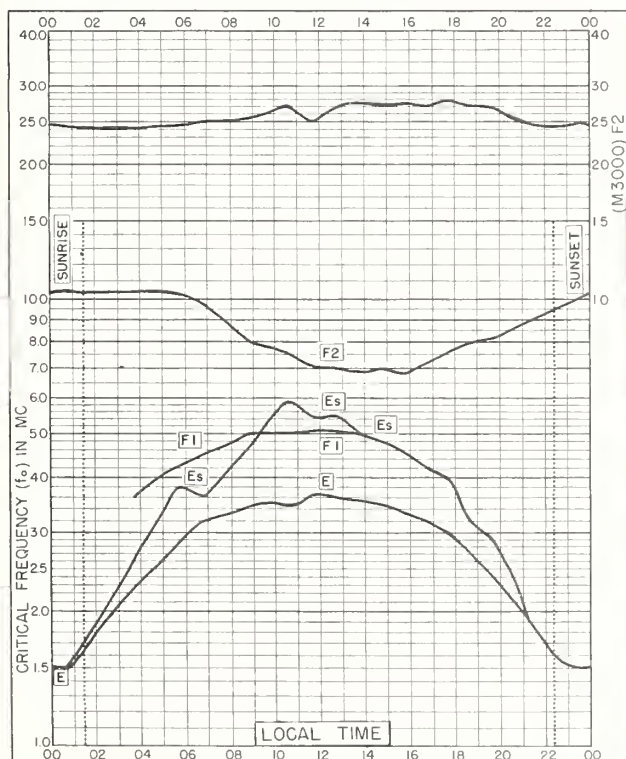


Fig. 91. PORT LOCKROY
64.8°S, 63.5°W DECEMBER 1959

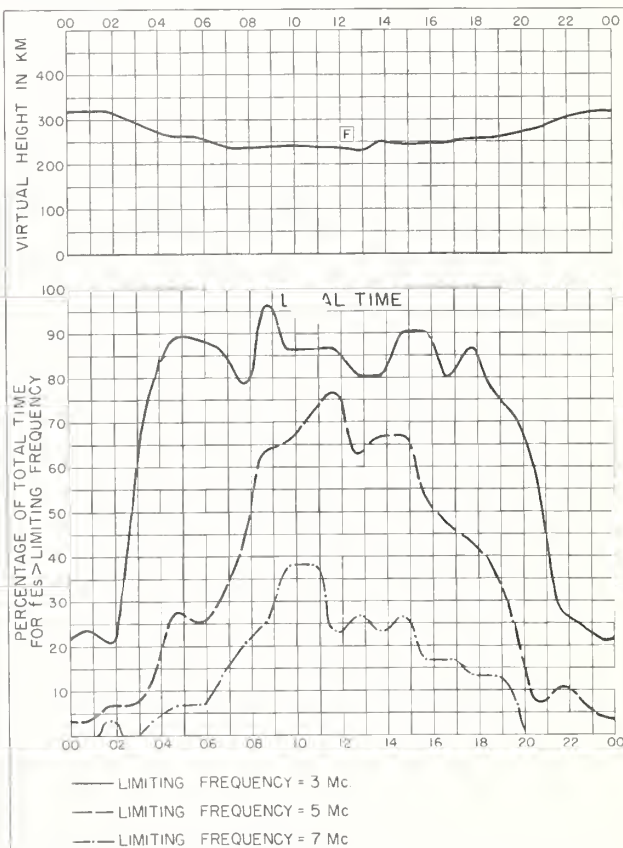


Fig. 92. PORT LOCKROY DECEMBER 1959

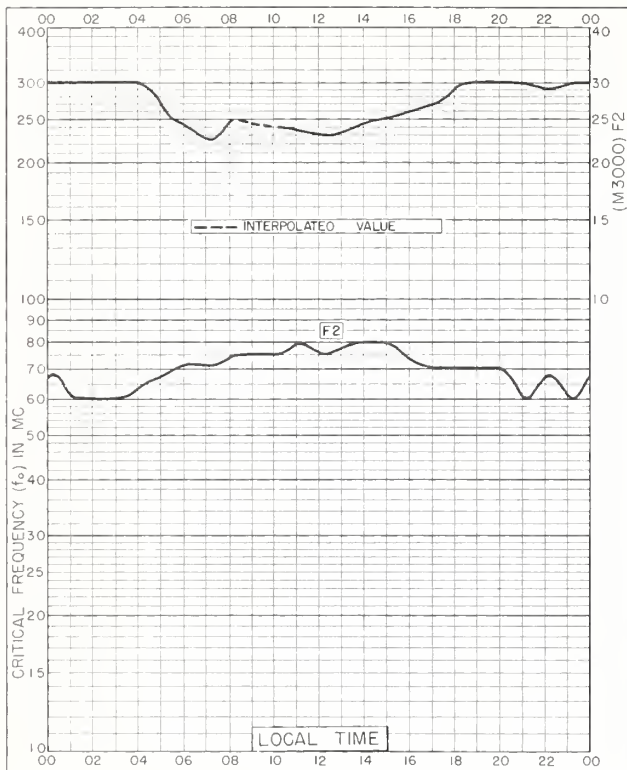


Fig. 93. MAWSON

67.6°S, 62.9°E

DECEMBER 1959

NBS 503

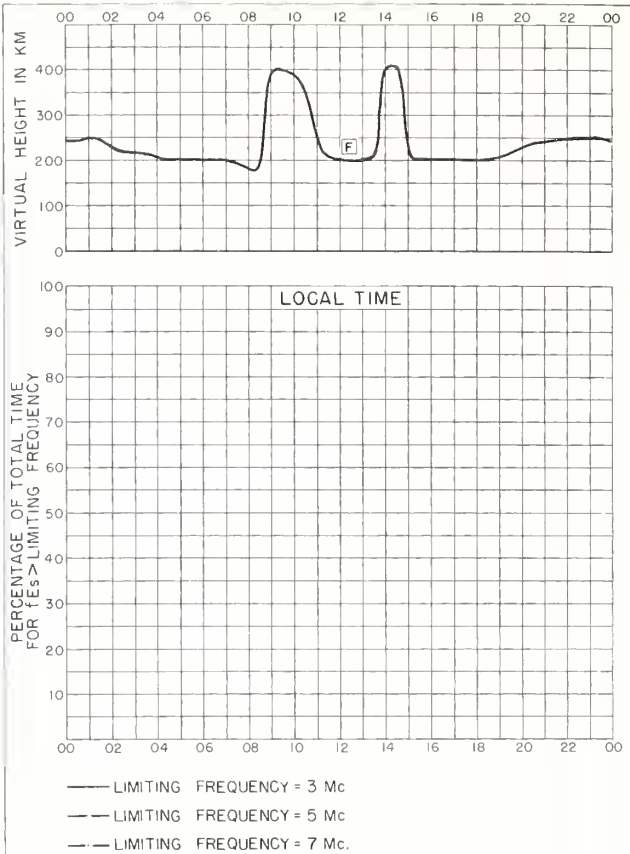


Fig. 94. MAWSON

DECEMBER 1959

NBS 490

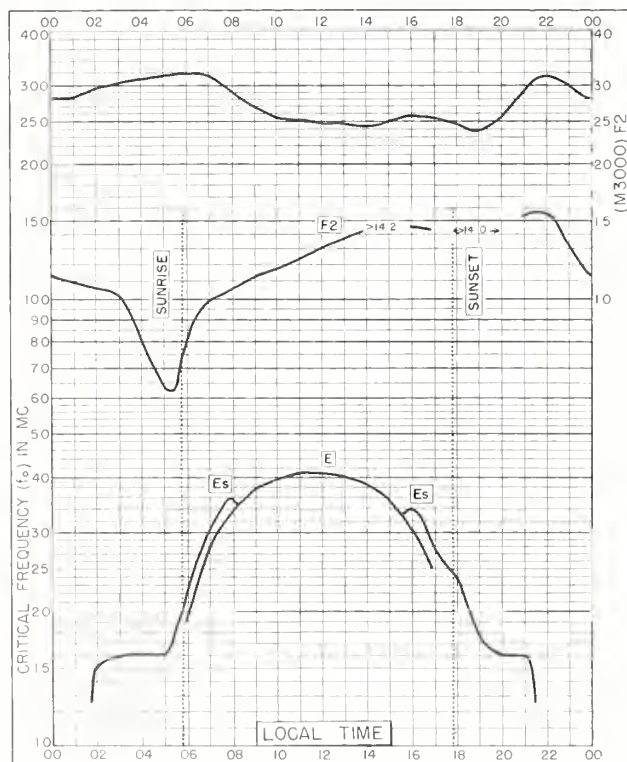


Fig. 95. LWIRO, BELGIAN CONGO

2.3°S, 28.8°E

NOVEMBER 1959

NBS 503

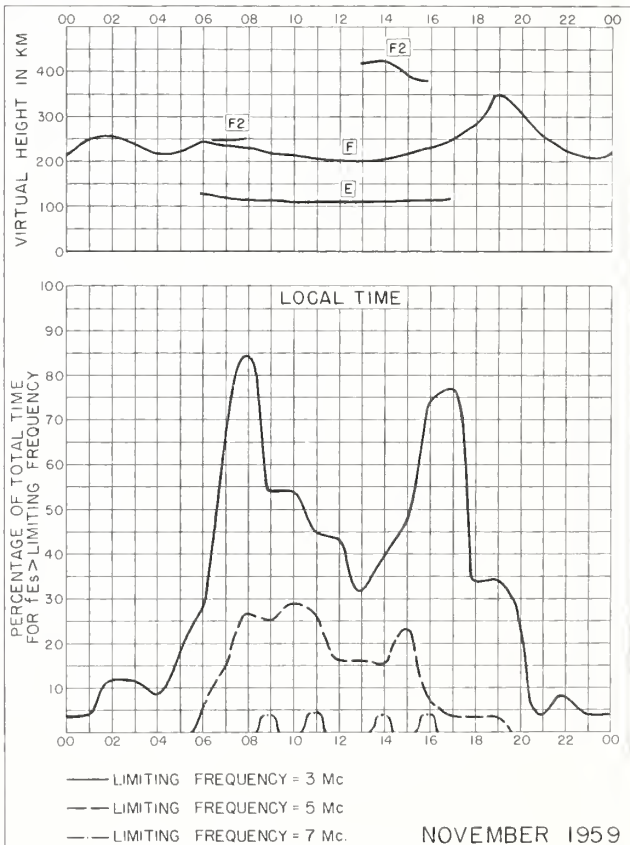


Fig. 96. LWIRO, BELGIAN CONGO

NOVEMBER 1959

NBS 490

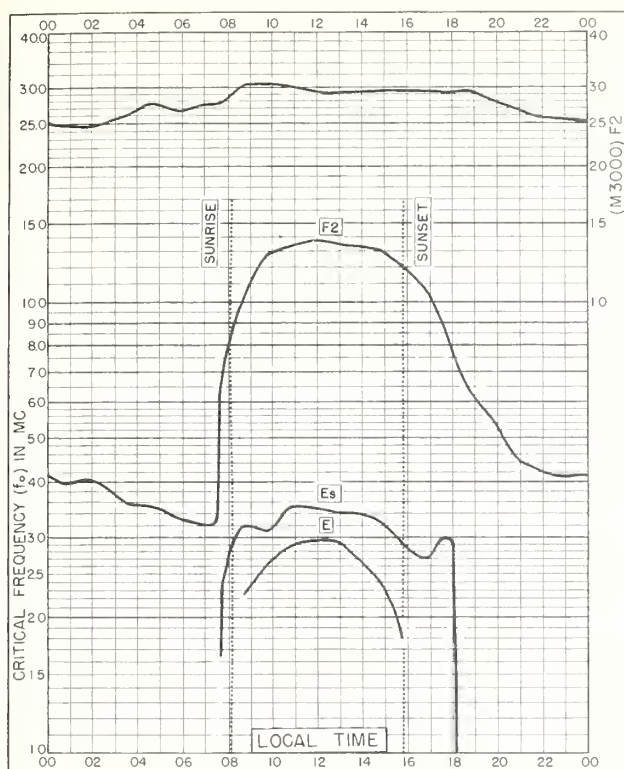


Fig. 97. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E
DECEMBER 1958

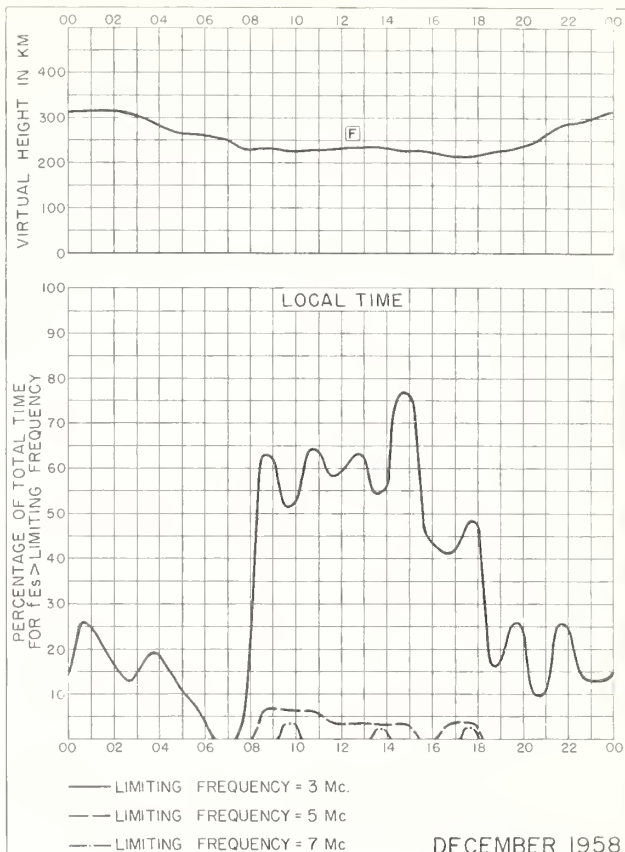


Fig. 98. LINDAU/HARZ, GERMANY

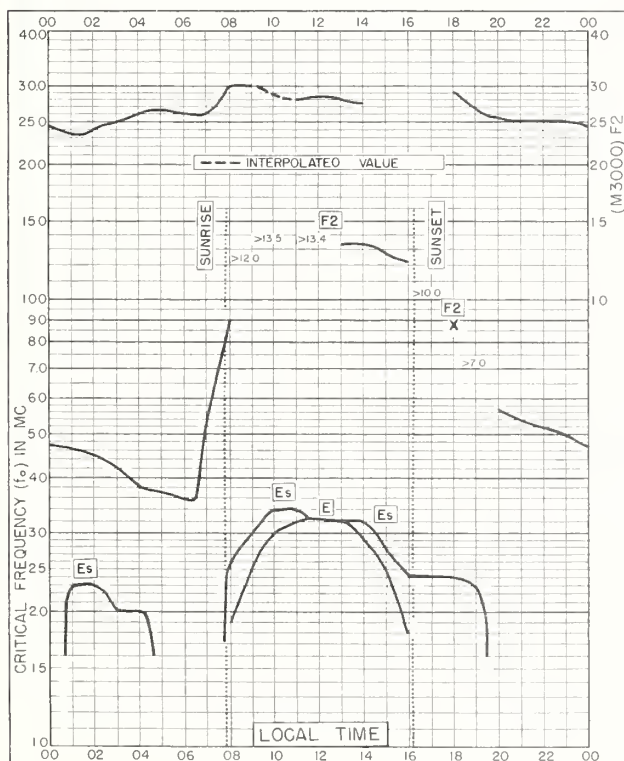


Fig. 99. POITIERS, FRANCE
46.6°N, 0.3°E
DECEMBER 1958

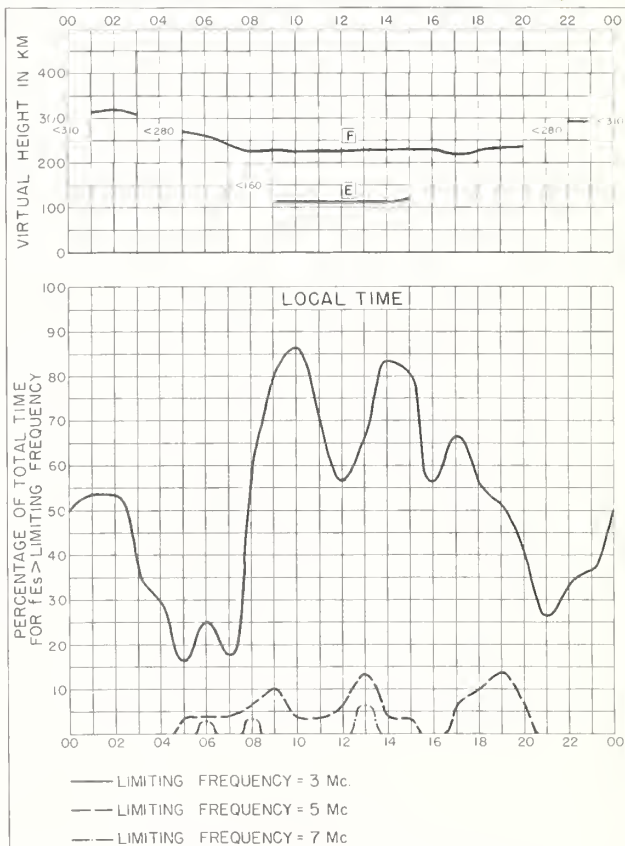


Fig. 100. POITIERS, FRANCE
DECEMBER 1958

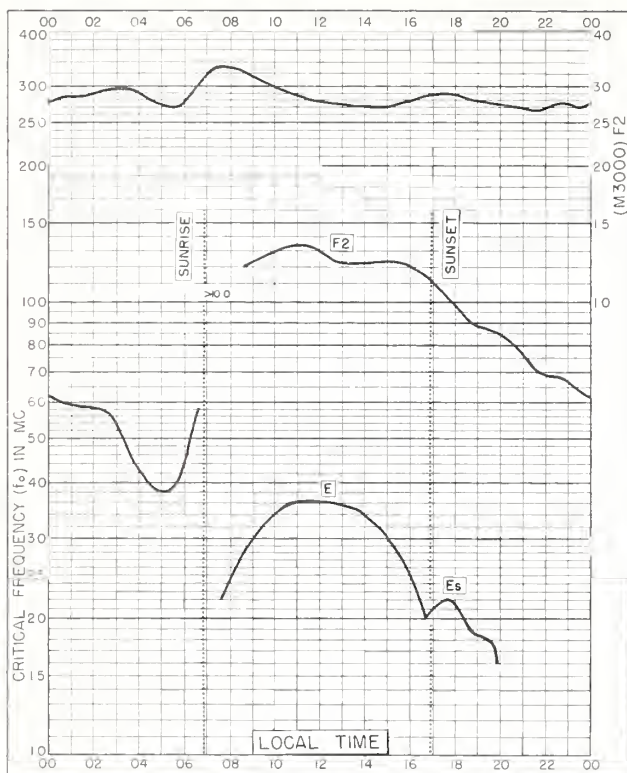


Fig. 101. RABAT, MOROCCO
30.9°N, 6.8°W

DECEMBER 1958

NBS 503

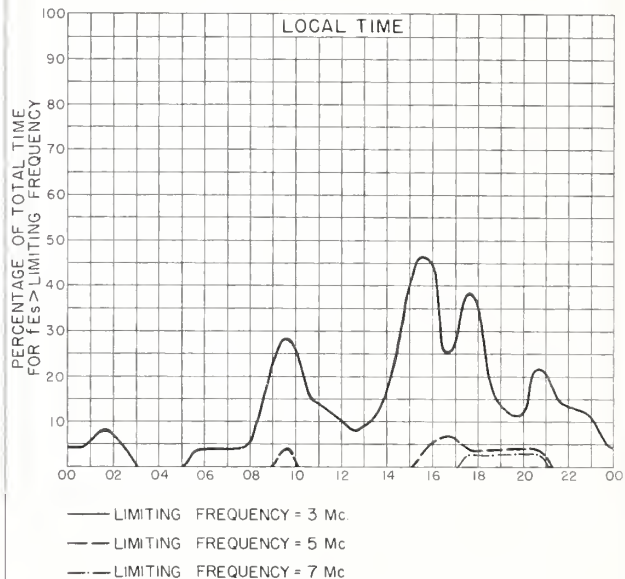
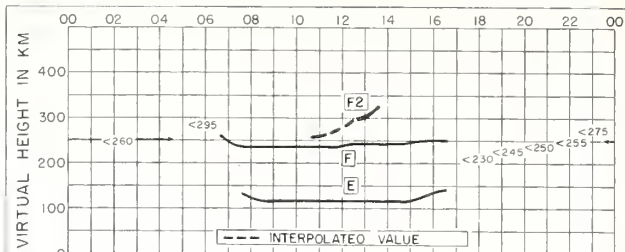


Fig. 102. RABAT, MOROCCO

DECEMBER 1958

NBS 490



Fig. 103. DAKAR, FRENCH W. AFRICA
14.8°N, 17.4°W

DECEMBER 1958

NBS 503

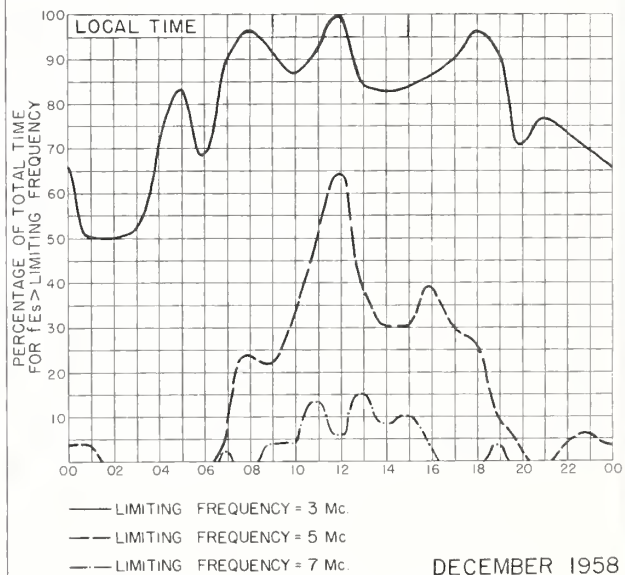
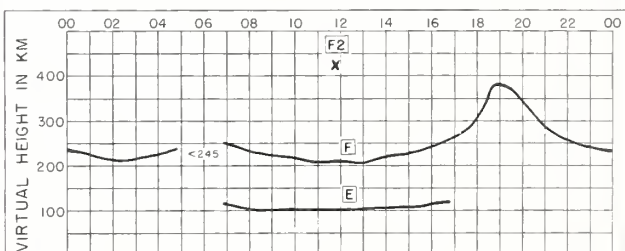


Fig. 104. DAKAR, FRENCH W. AFRICA

DECEMBER 1958

NBS 490

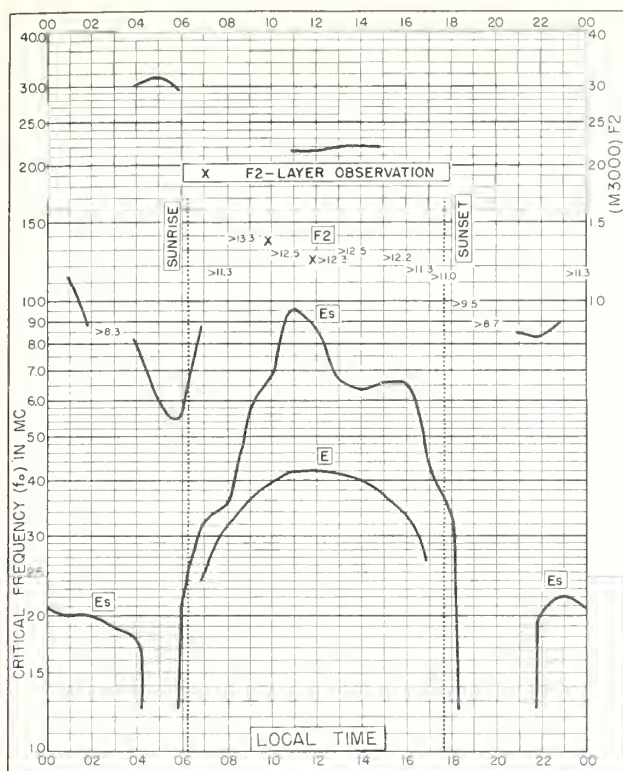
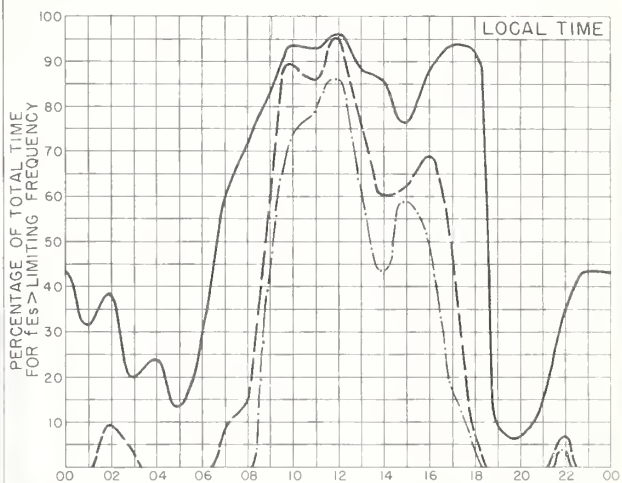
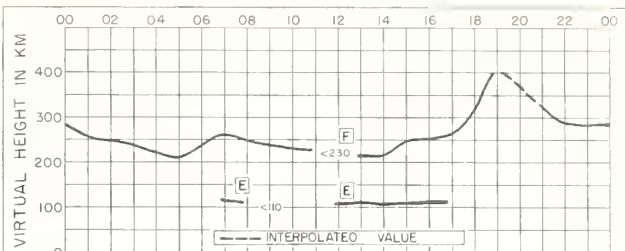


Fig. 105. DJIBOUTI, FRENCH SOMALILAND
11.6°N, 43.2°E
DECEMBER 1958



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
- · - · - LIMITING FREQUENCY = 7 Mc

DECEMBER 1958

Fig. 106. DJIBOUTI, FRENCH SOMALILAND

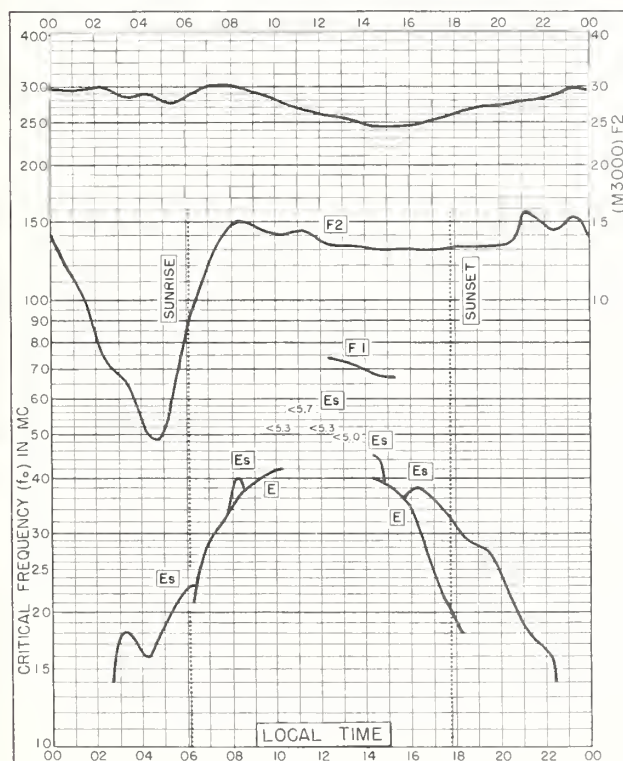
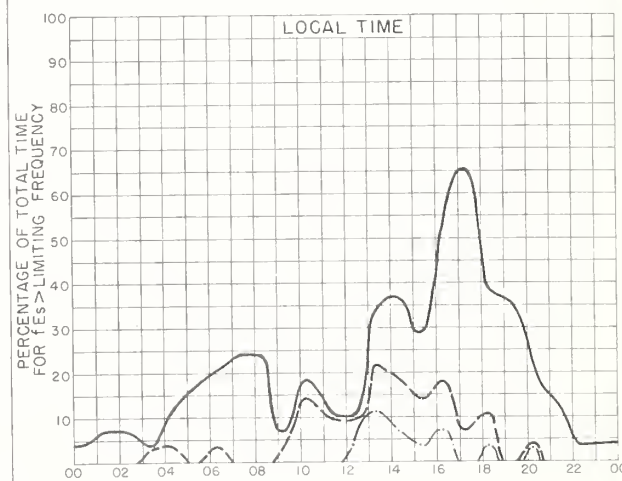
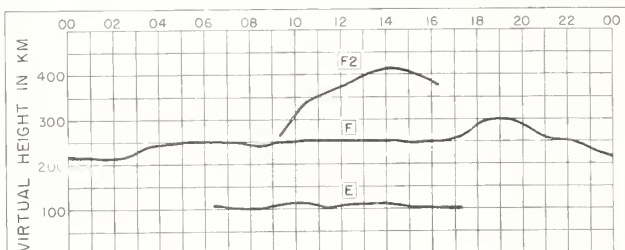


Fig. 107. PARAMARIBO, SURINAM
5.8°N, 55.2°W
DECEMBER 1958



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
- · - · - LIMITING FREQUENCY = 7 Mc

Fig. 108. PARAMARIBO, SURINAM DECEMBER 1958

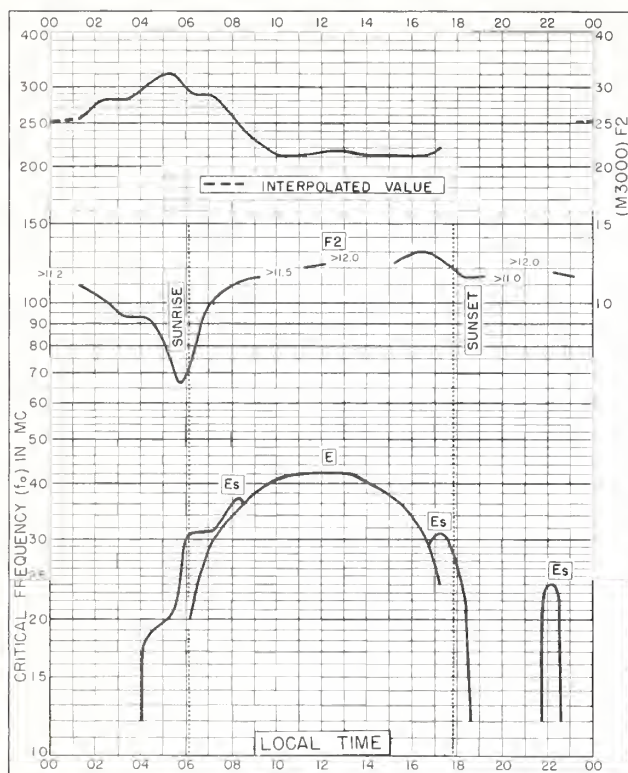


Fig. 109. BANGUI, FRENCH EQUATORIAL AFRICA
4.6°N, 18.6°E DECEMBER 1958

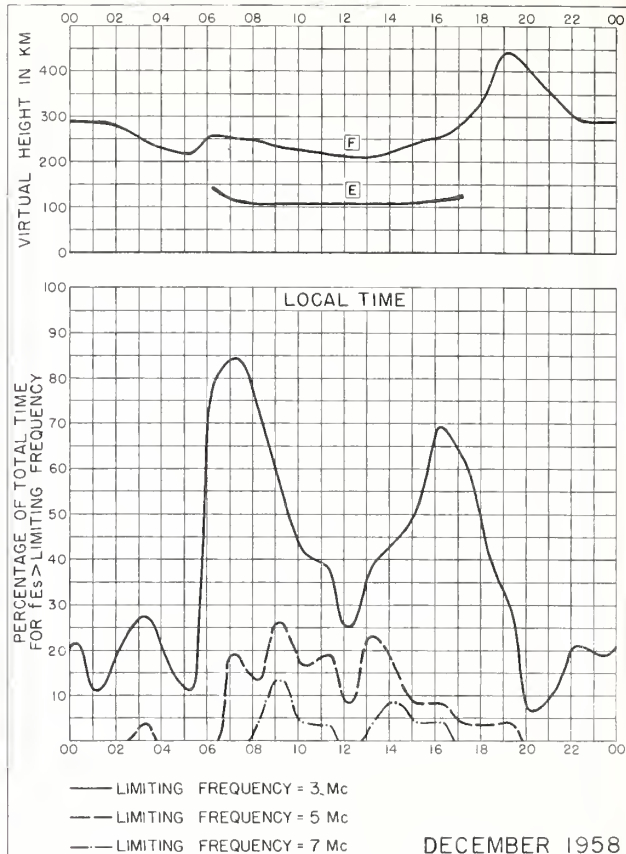


Fig. 110. BANGUI, FRENCH EQUATORIAL AFRICA

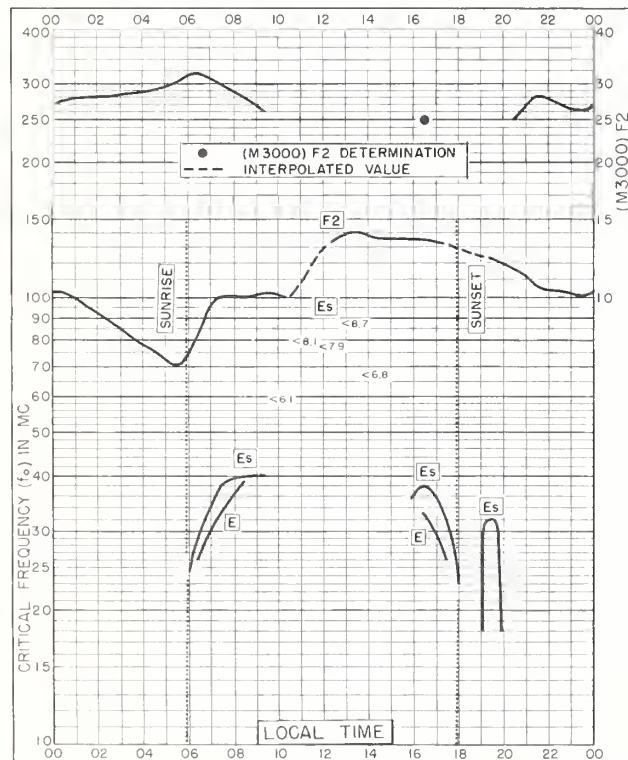


Fig. 111. HOLLANDIA, NETHERLANDS NEW GUINEA
2.5°S, 140.8°E DECEMBER 1958

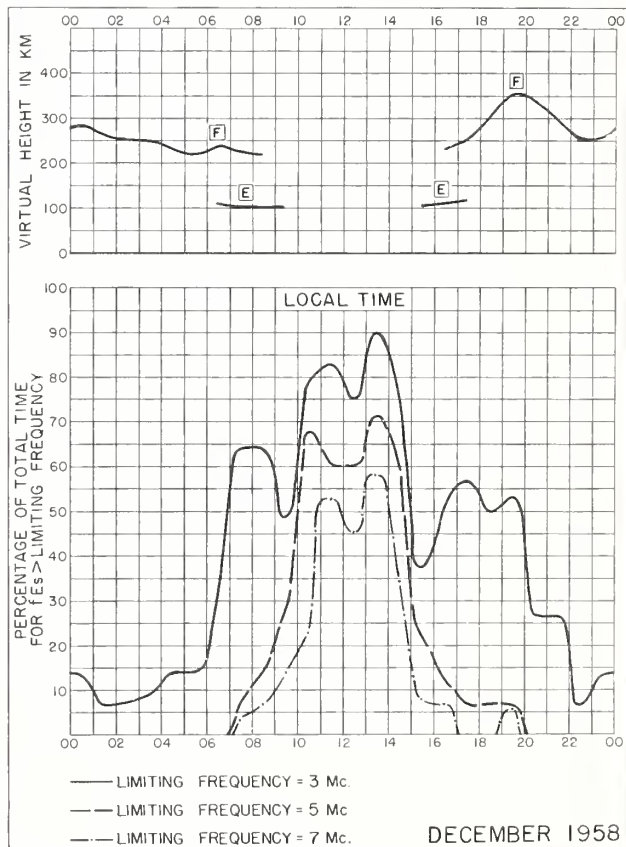


Fig. 112. HOLLANDIA, NETHERLANDS NEW GUINEA

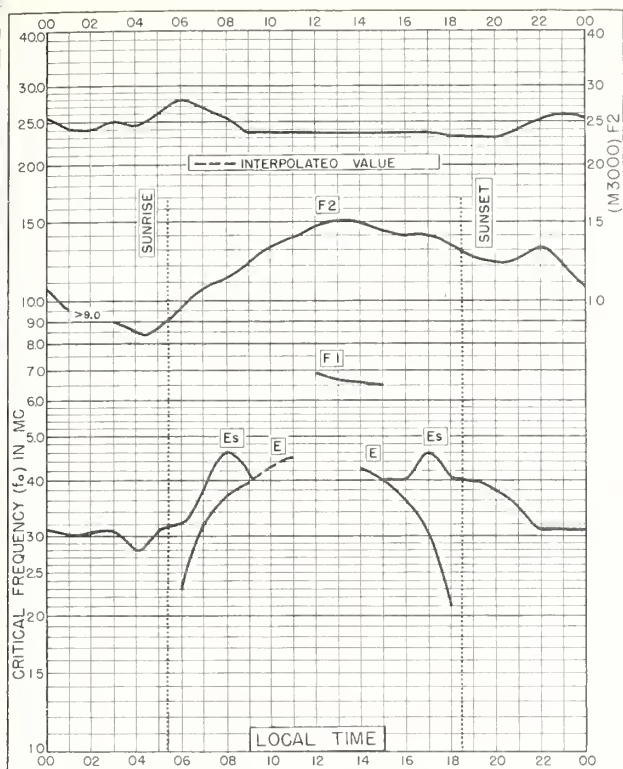


Fig. 113. TAHITI, SOCIETY IS.

17.7°S, 149.3°W

DECEMBER 1958

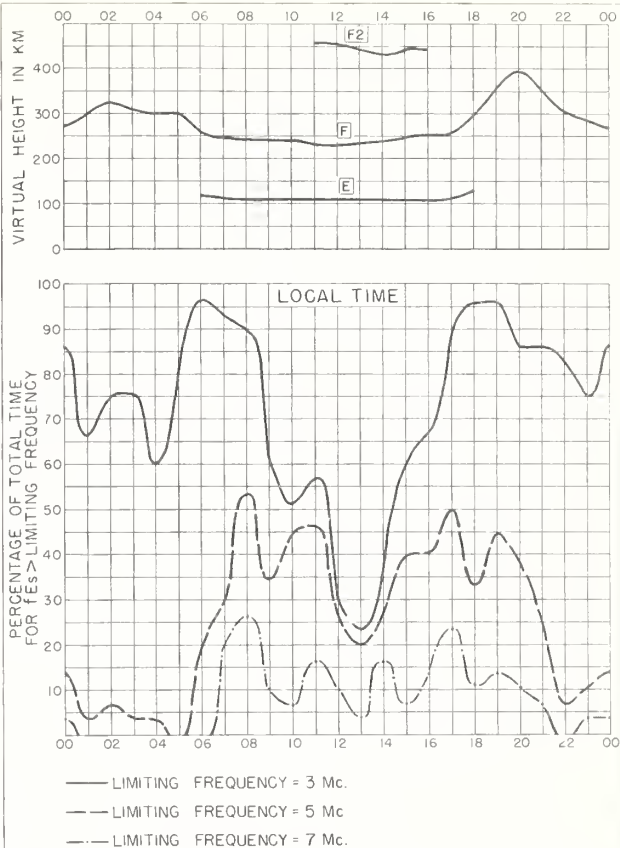


Fig. 114. TAHITI, SOCIETY IS.

DECEMBER 1958

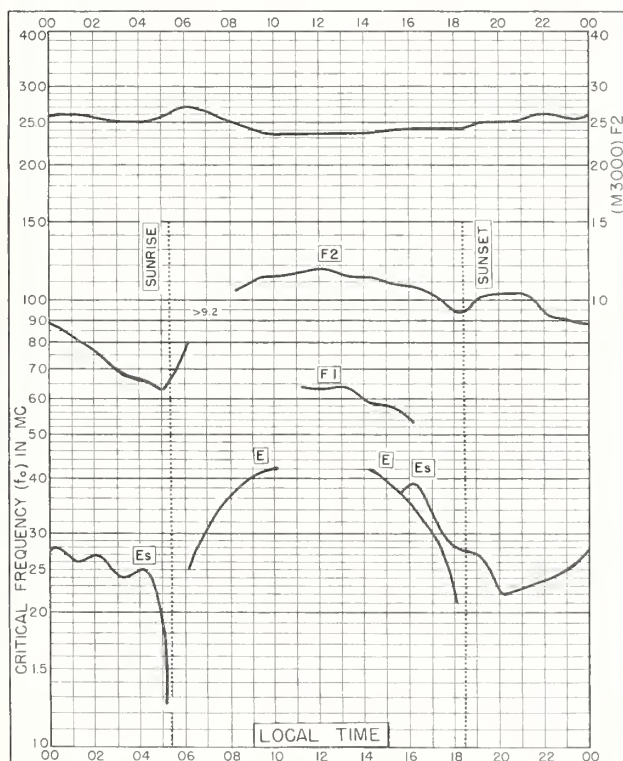


Fig. 115. TANANARIVE, MADAGASCAR

18.8°S, 47.5°E

DECEMBER 1958

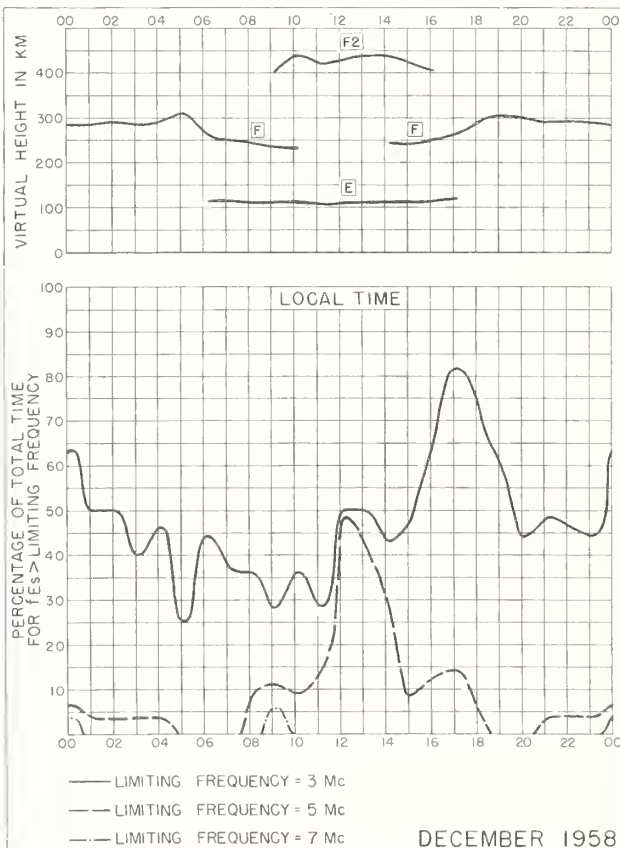
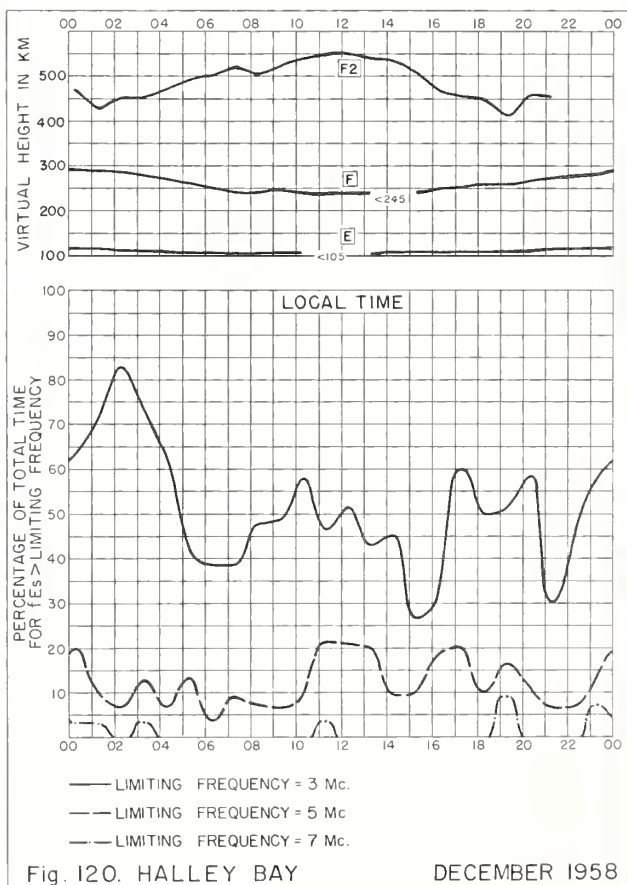
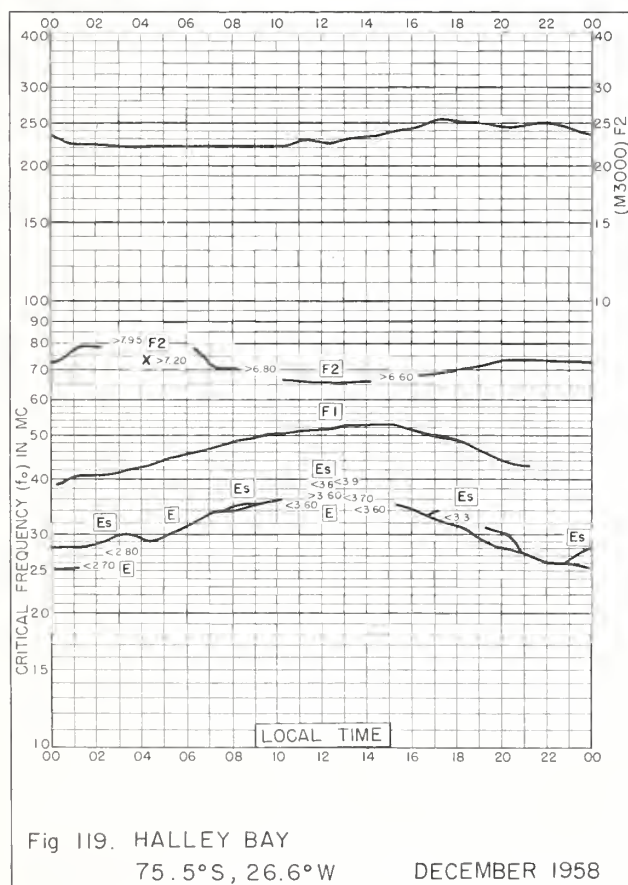
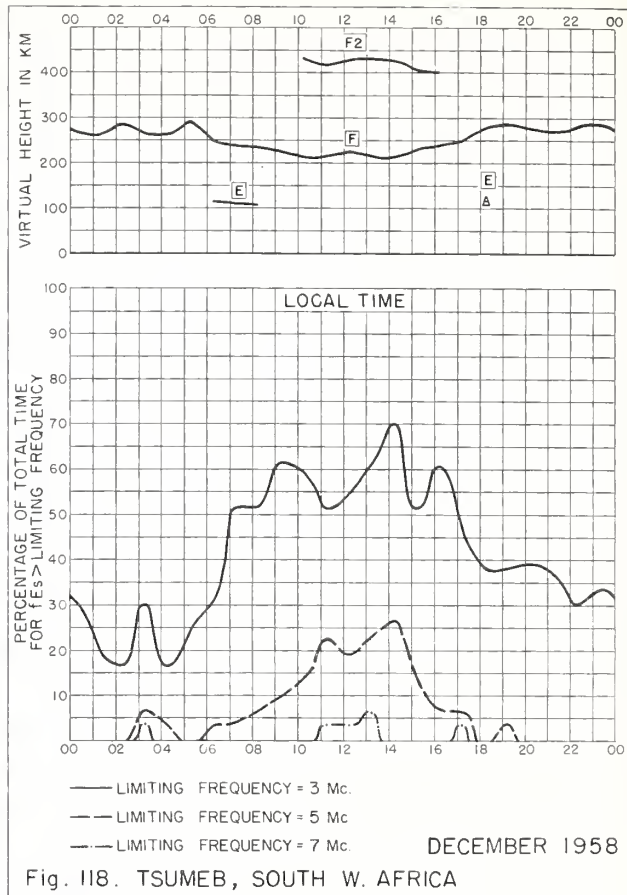
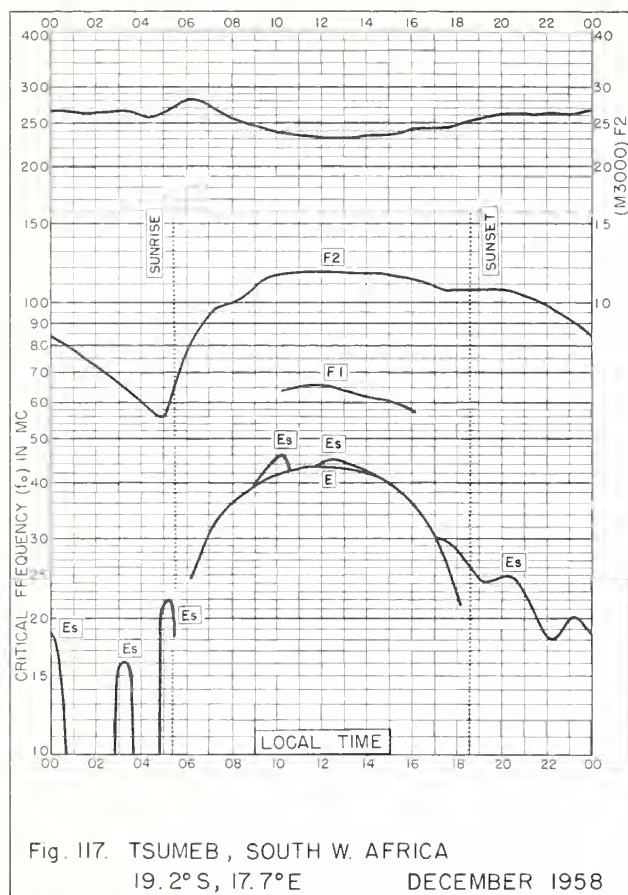


Fig. 116. TANANARIVE, MADAGASCAR

DECEMBER 1958



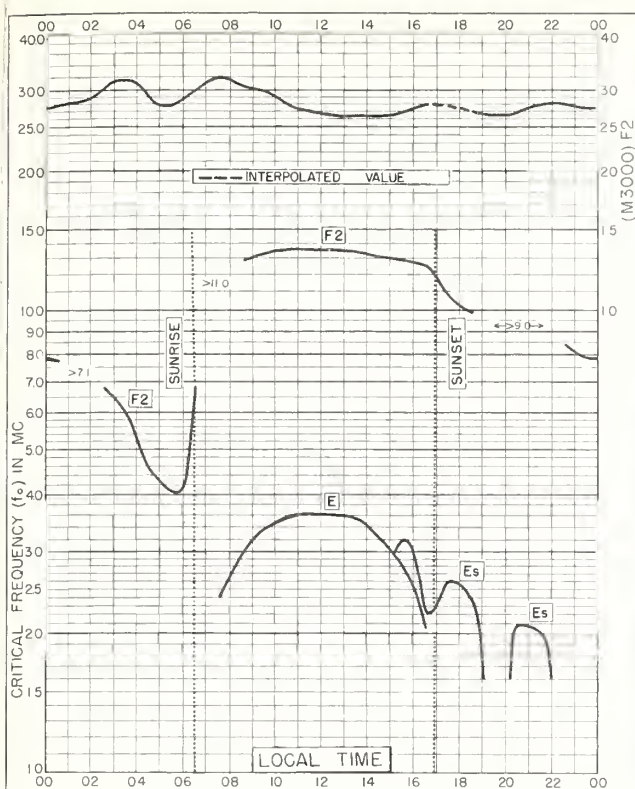


Fig. 121. RABAT, MOROCCO

30.9°N, 6.8°W

NOVEMBER 1958

NBS 503

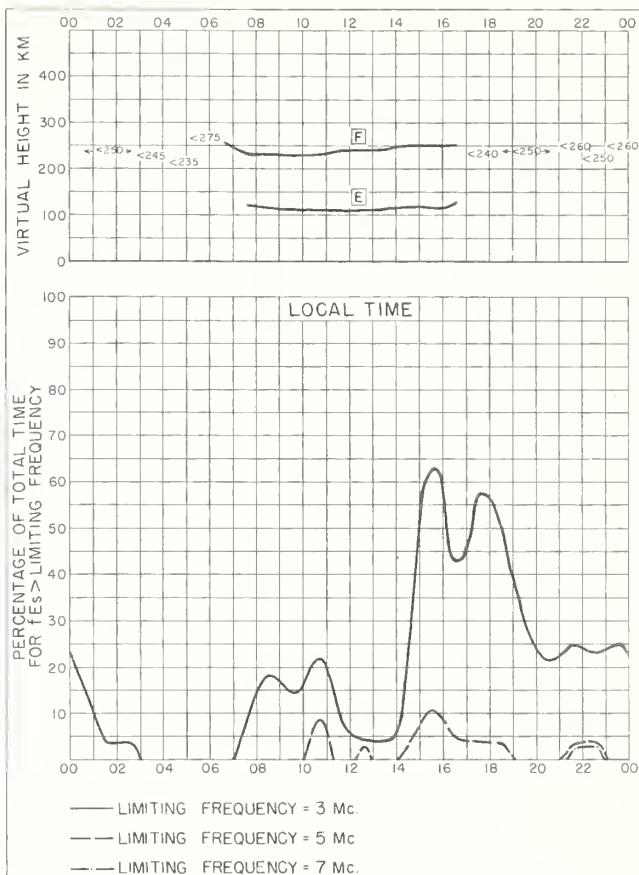


Fig. 122. RABAT, MOROCCO

NOVEMBER 1958

NBS 490

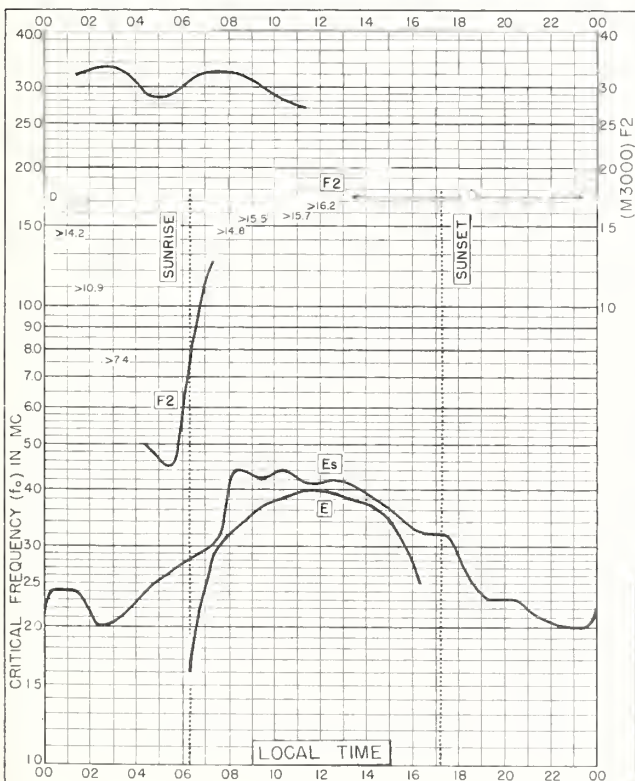


Fig. 123. TAMANRASSET, FRENCH W. AFRICA

22.8°N, 5.5°E

NOVEMBER 1958

NBS 503

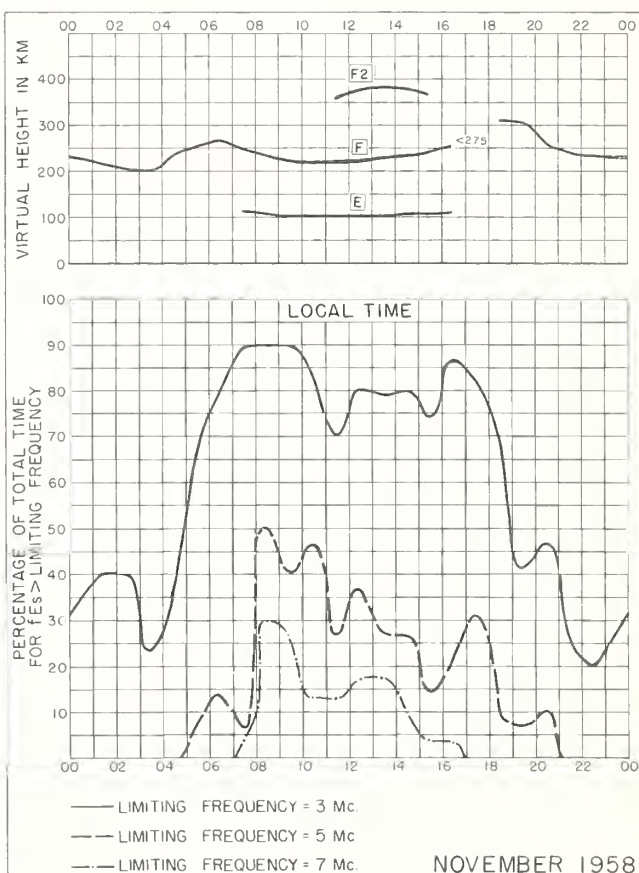


Fig. 124. TAMANRASSET, FRENCH W. AFRICA

NOVEMBER 1958

NBS 490

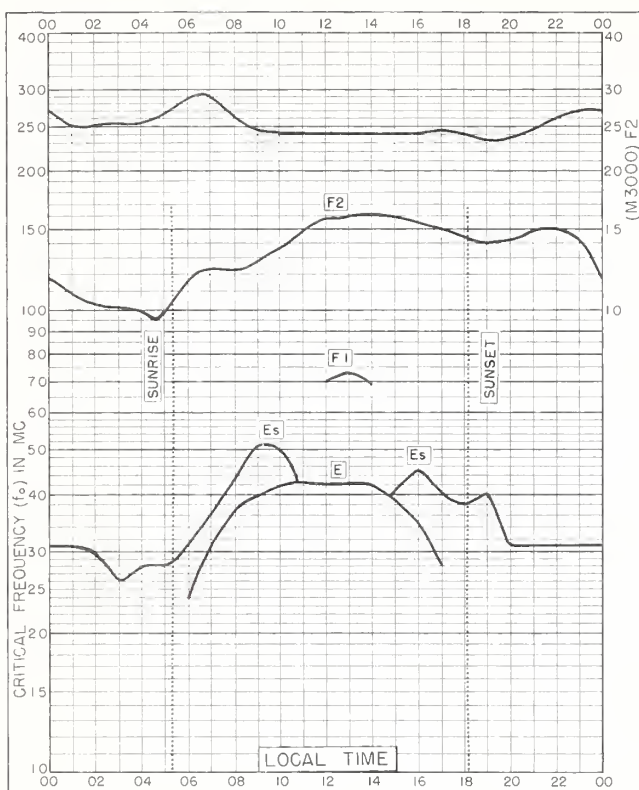


Fig. 125. TAHITI, SOCIETY IS.
17.7°S, 149.3°W

NOVEMBER 1958

NBS 503

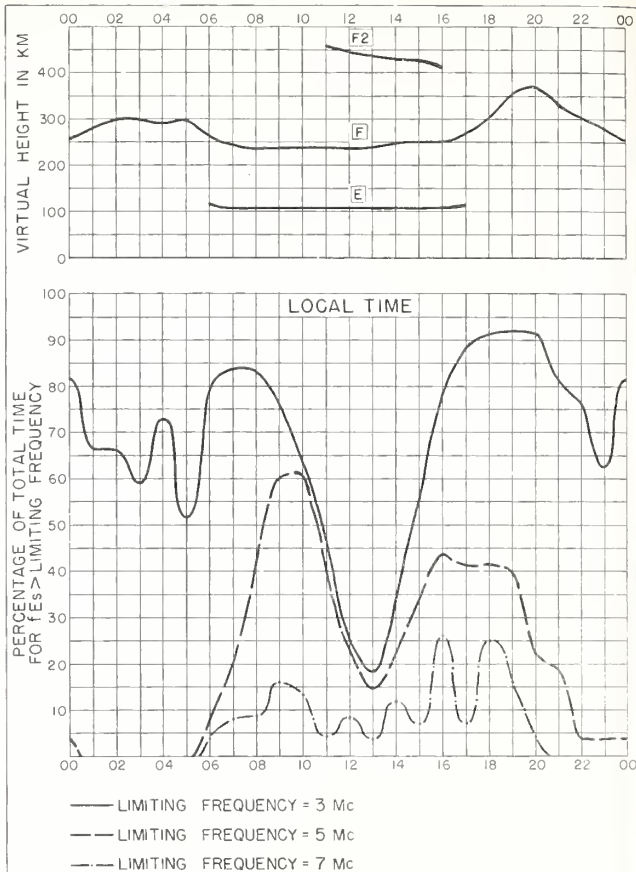


Fig. 126. TAHITI, SOCIETY IS. NOVEMBER 1958

NBS 490

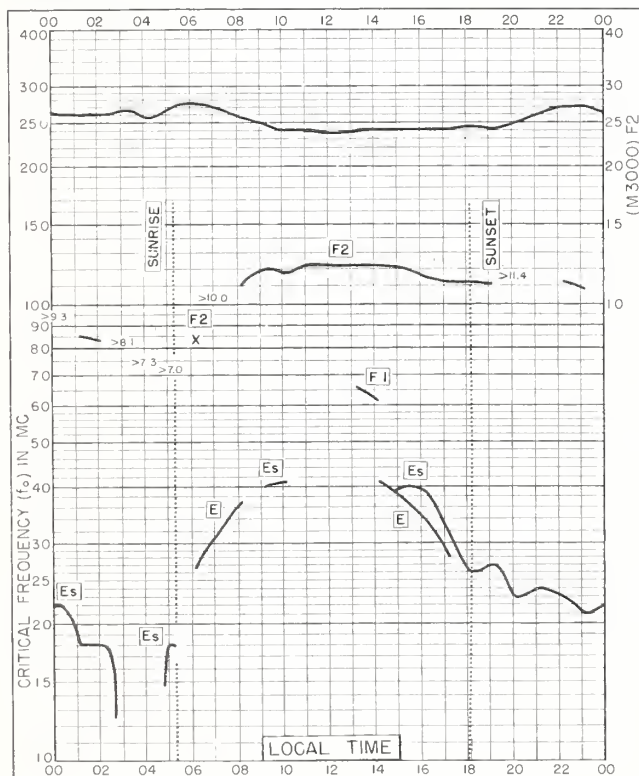


Fig. 127. TANANARIVE, MADAGASCAR
18.8°S, 47.5°E

NOVEMBER 1958

NBS 503

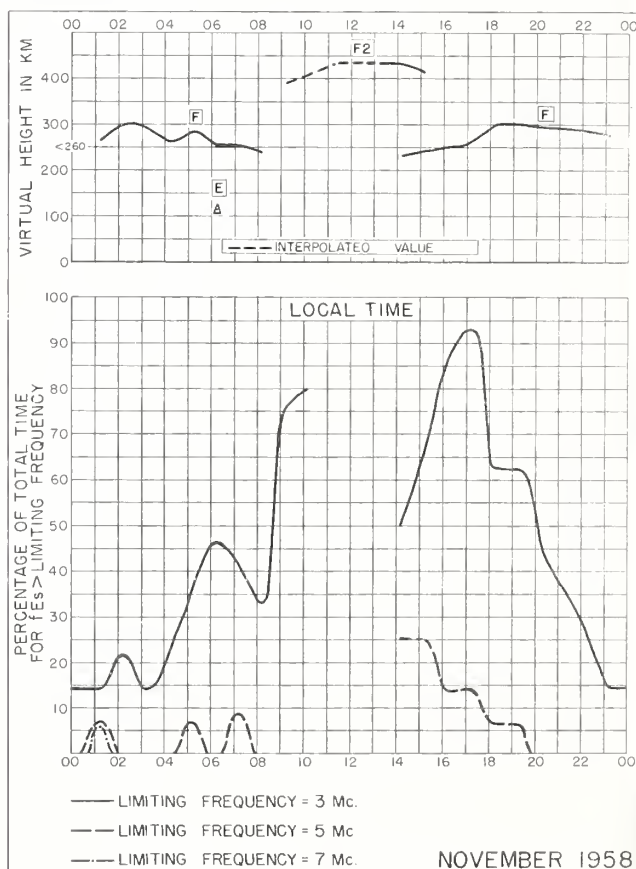


Fig. 128. TANANARIVE, MADAGASCAR

NBS 490

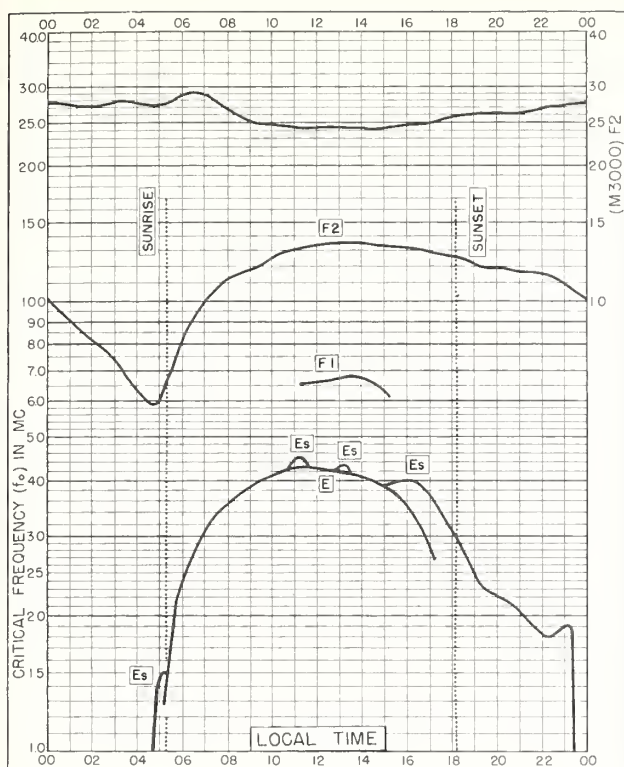


Fig. 129. TSUMEB, SOUTH W. AFRICA
19.2°S, 17.7°E
NOVEMBER 1958

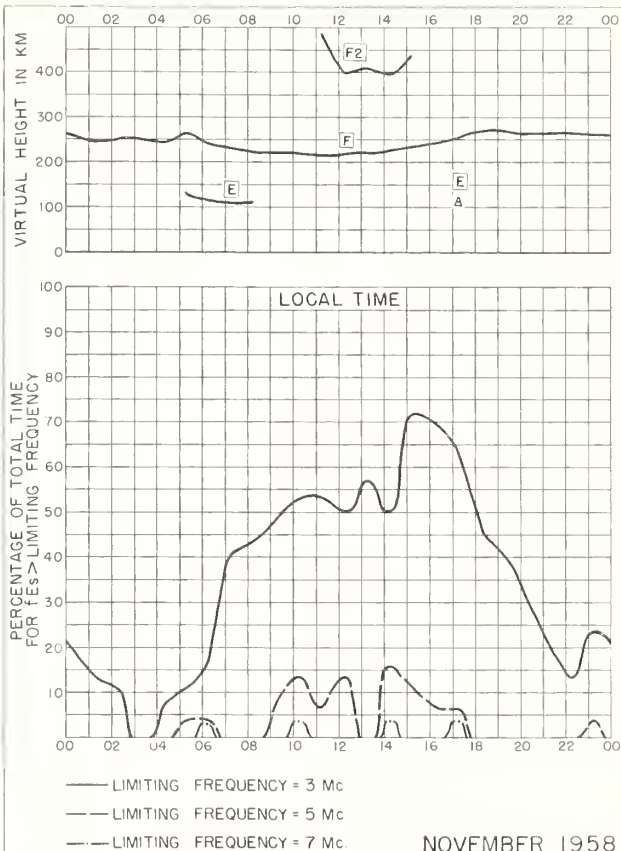


Fig. 130. TSUMEB, SOUTH W. AFRICA
NOVEMBER 1958

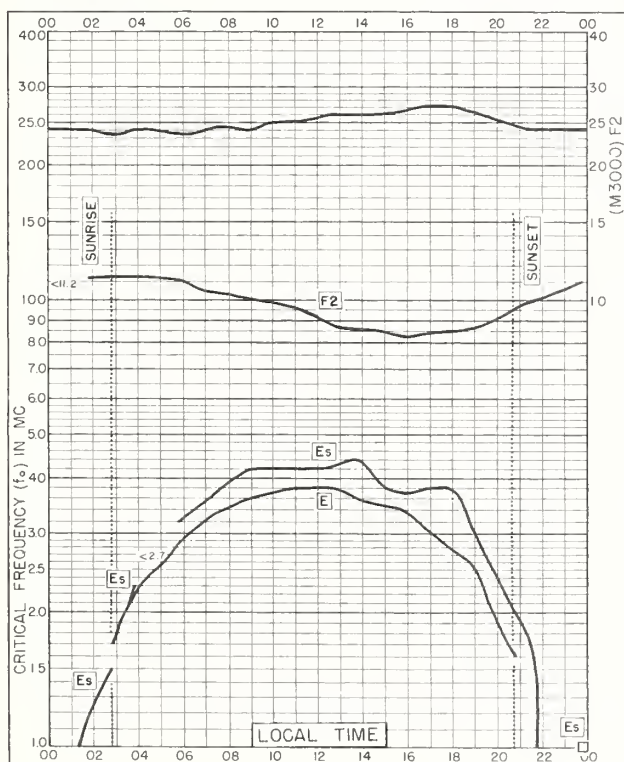


Fig. 131. PORT LOCKROY
64.8°S, 63.5°W
NOVEMBER 1958

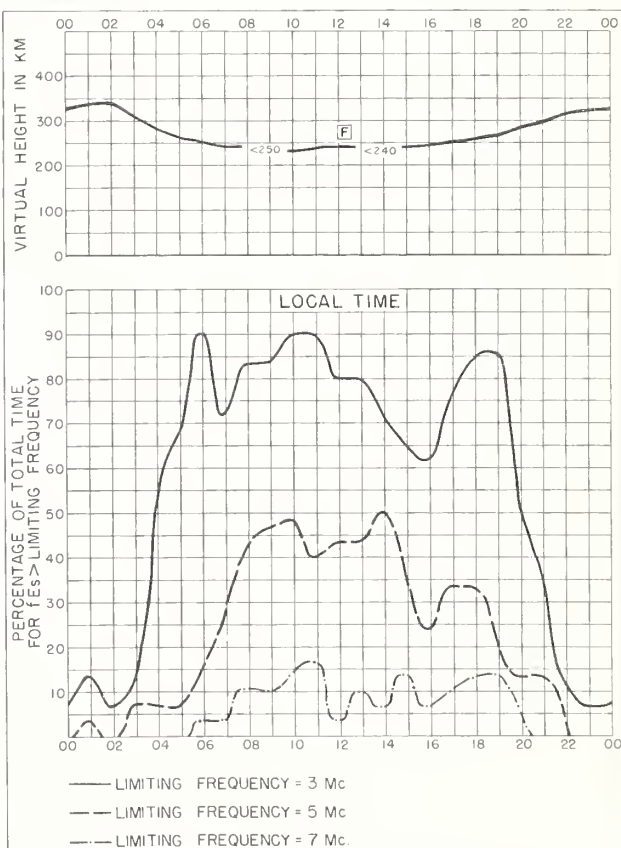


Fig. 132. PORT LOCKROY
NOVEMBER 1958

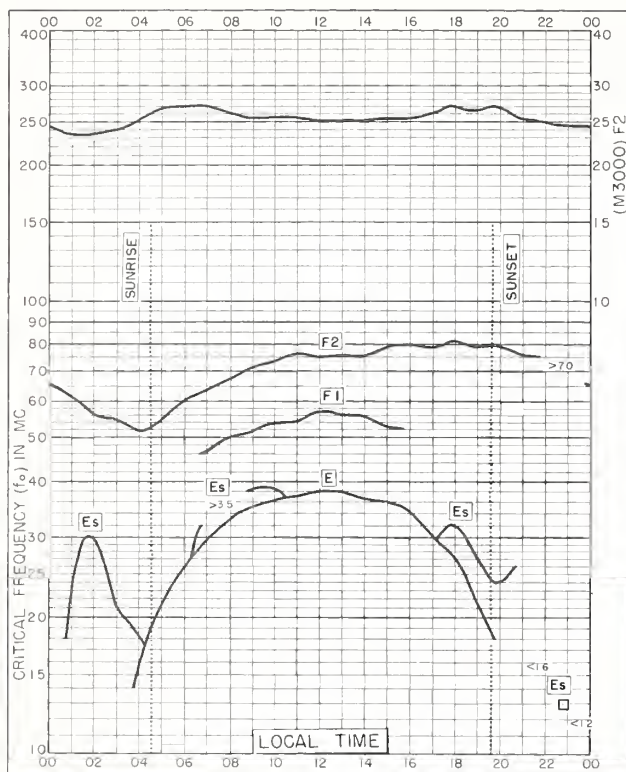


Fig. 133. INVERNESS, SCOTLAND
57.4°N, 4.2°W

AUGUST 1958

NBS 503

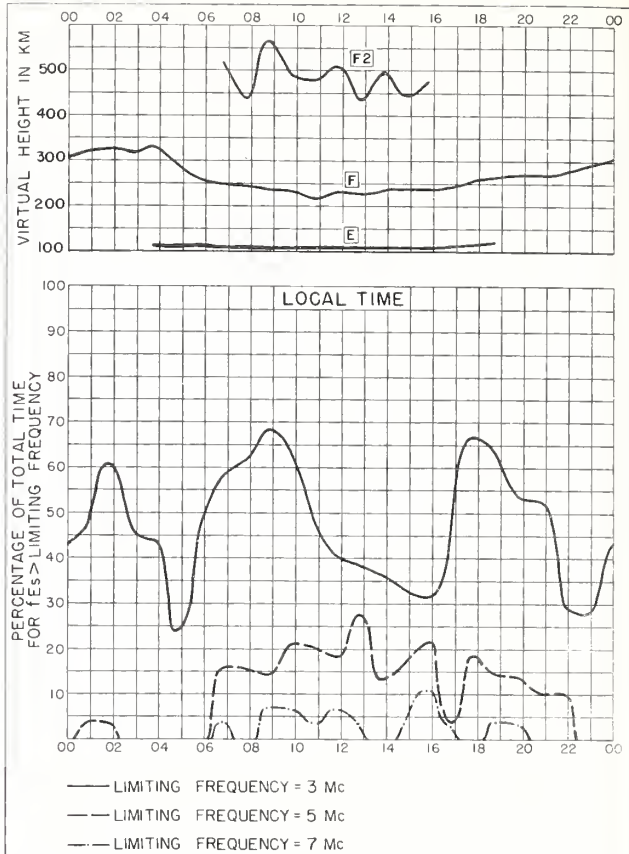


Fig. 134. INVERNESS, SCOTLAND AUGUST 1958

NBS 430

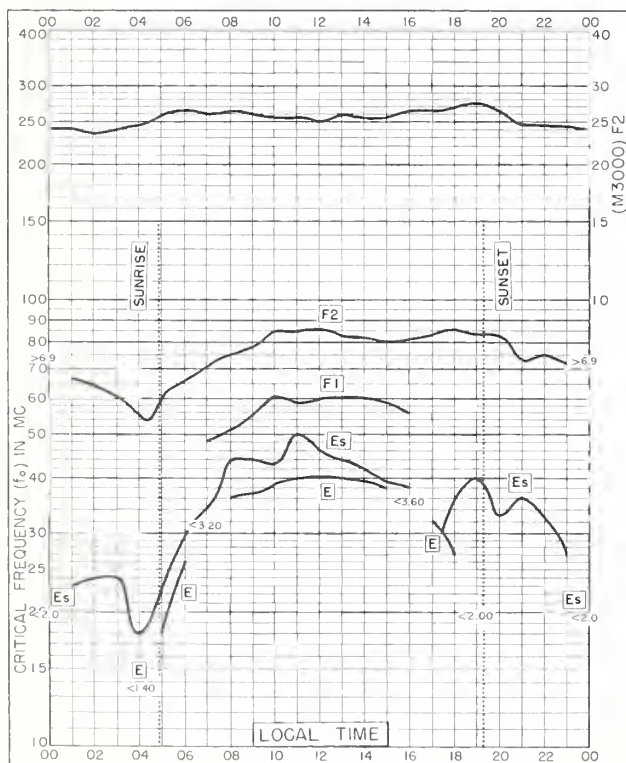


Fig. 135. SLOUGH, ENGLAND
51.5°N, 0.6°W

AUGUST 1958

NBS 503

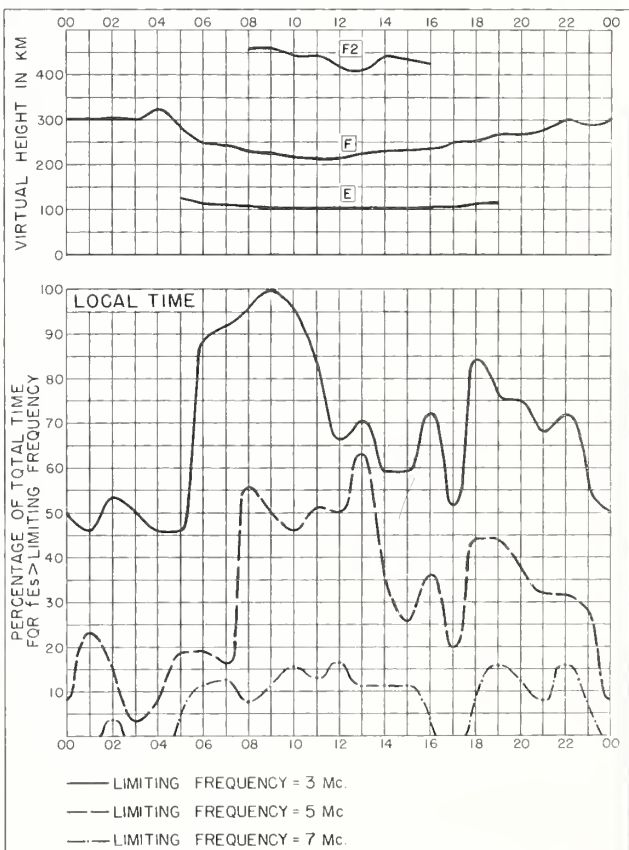


Fig. 136. SLOUGH, ENGLAND

AUGUST 1958

NBS 430

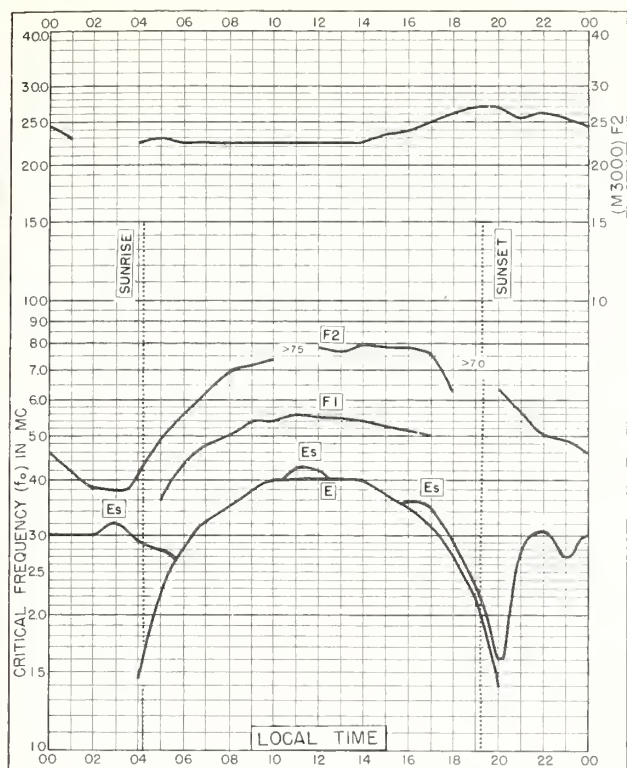


Fig. 137. KERGUELEN I.
49.4°S, 70.3°E

NOVEMBER 1956

NBS 503

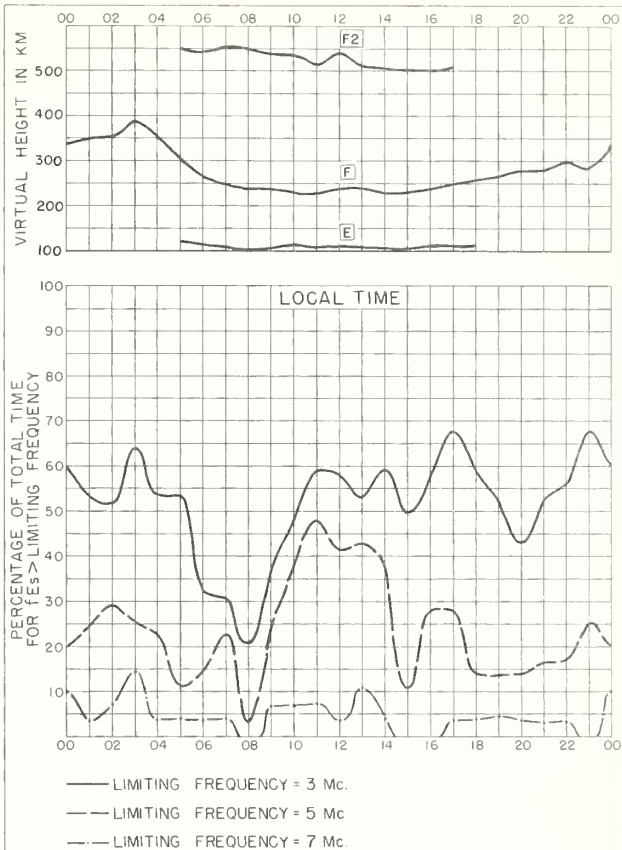


Fig. 138. KERGUELEN I.

NOVEMBER 1956

NBS 490

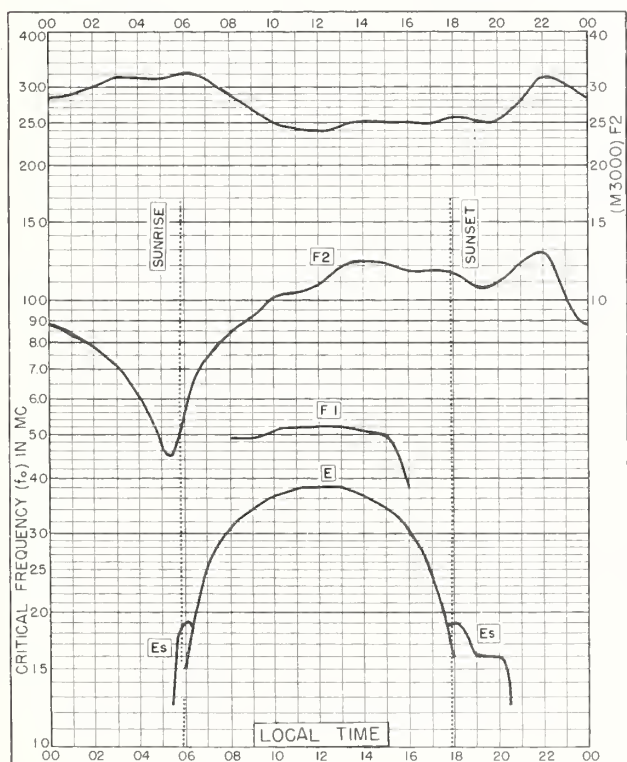


Fig. 139. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E

DECEMBER 1955

NBS 503

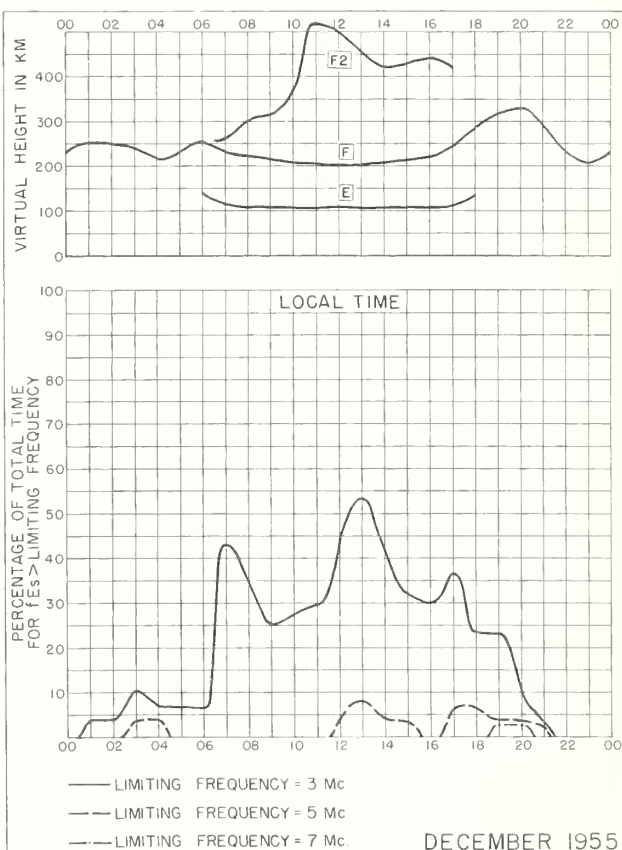


Fig. 140. LWIRO, BELGIAN CONGO

DECEMBER 1955

NBS 490

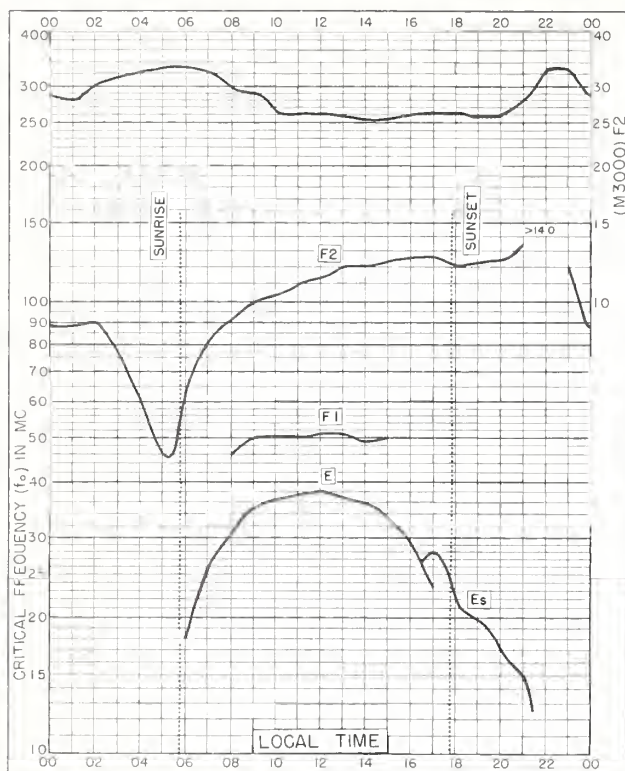


Fig. 141. LWIRO, BELGIAN CONGO
2.3°S, 28.8°E NOVEMBER 1955

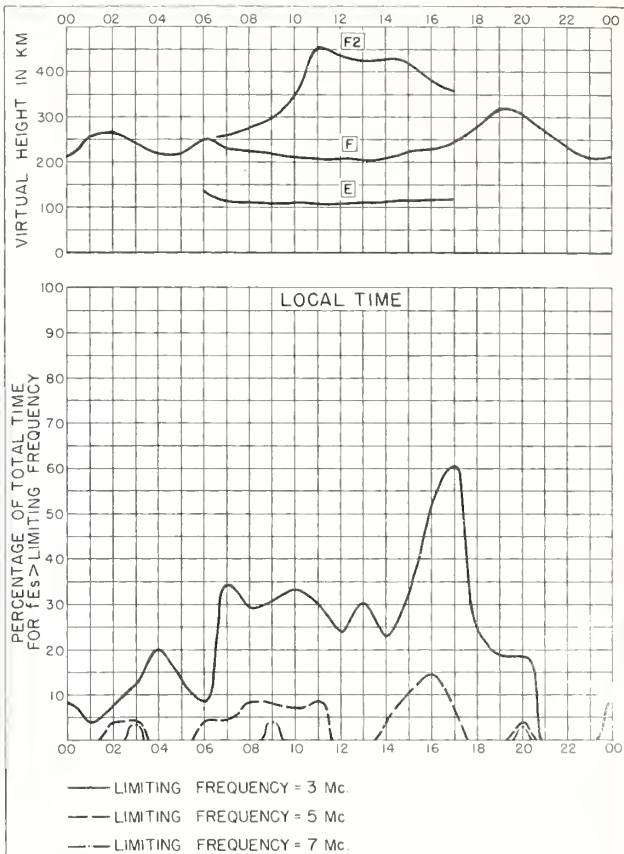


Fig. 142. LWIRO, BELGIAN CONGO NOVEMBER 1955

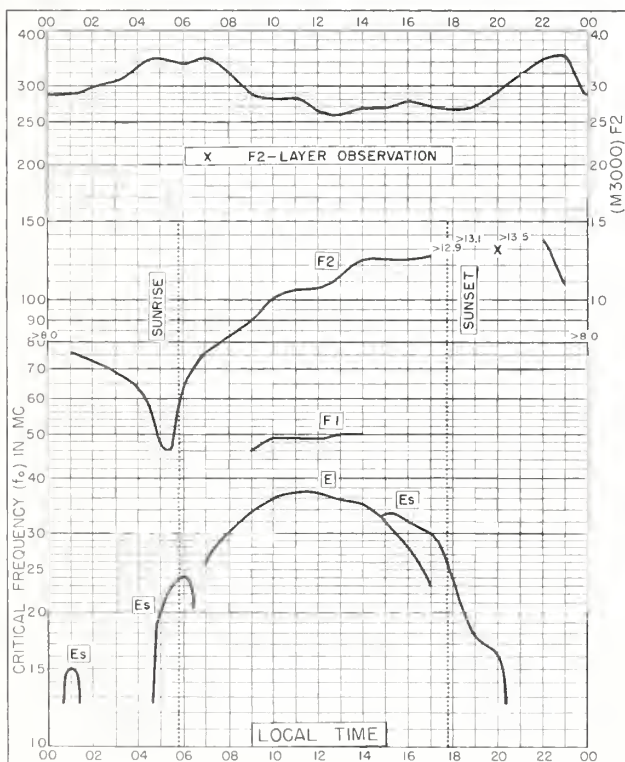


Fig. 143. LWIRO, BELGIAN CONGO
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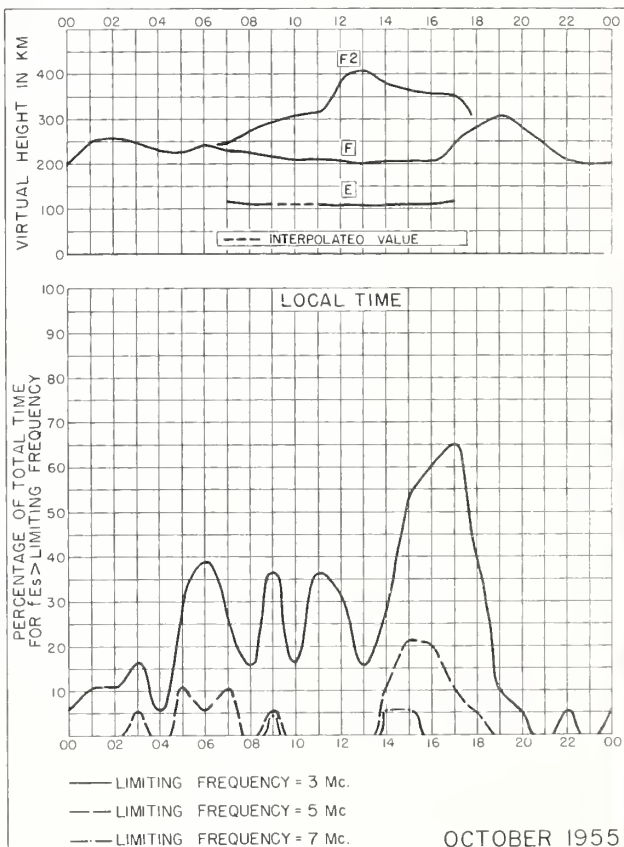


Fig. 144. LWIRO, BELGIAN CONGO

OCTOBER 1955

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(Part B). Solar-Geophysical Data.

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